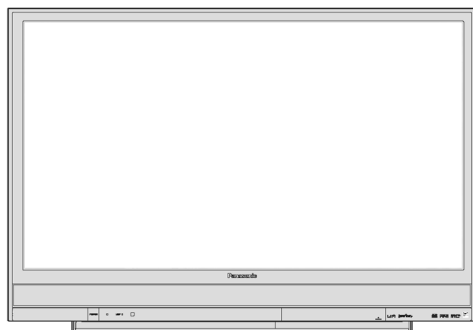


Service Manual

Multi Media Display



PbF
Solder Lead free

PT-56LCX70
PT-61LCX70
PT-50LCX7
PT-56LCX7
PT-61LCX7
PT-50LCX7K
PT-56LCX70-K
PT-61LCX70-K

Vol. 1

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1 Safety Precautions

1.1. General Guidelines

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC Plug before disassembling this unit.
3. It is advisable to use an isolation transformer in the AC supply before servicing.
4. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
5. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shield, and isolation R-C combinations etc. are properly installed.
6. After servicing, be sure to restore the wires, leads, insulation barriers, shields, etc.
7. After servicing, make the leakage current checks to prevent the customer from being exposed to shock hazards.

Caution:

Use a separate Isolation Transformer for this unit when servicing.

1.2. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. For physically operated power switches, turn power on. Otherwise skip step 2.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screwheads, connectors, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 M Ω and 12 M Ω . When the exposed metal does not have a return path to the chassis, the reading must be infinity.

1.3. Leakage Current Hot Check

1. Plug the AC cord directly into the AC outlet.
Do not use an isolation transformer for this check.
2. Connect "A" to exposed metallic part on the set. And connect "B" to a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with 1 k Ω /V or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.25 V RMS.
A leakage current tester (Simpson Model 228 equivalent) may be used to make the hot checks. Leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

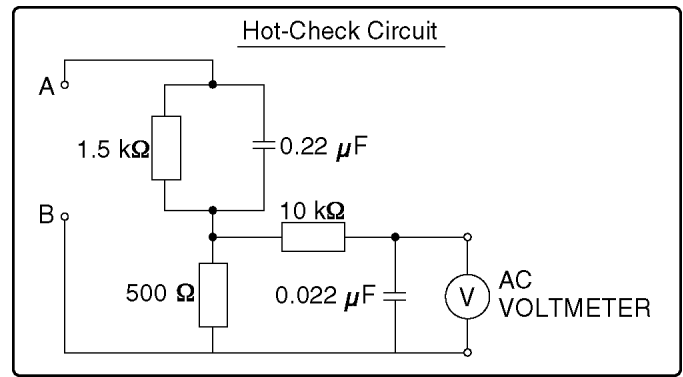


Figure 1

1.4. Disposal Lamp

This Projection Display TV has a Electrodeless Discharge Lamp that contains mercury. Disposal may be regulated in your community due to environmental considerations. For disposal or recycling information, please contact your local authorities, or the Electronics Industries Alliance: <<http://www.eiae.org>>

2 Warning

2.1. Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION :

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

3 Service Navigation

3.1. Introduction

This service manual contains technical information which will allow service personnel's to understand and service this model. Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

3.2. About Lead Free Solder (PbF)

Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF printing on the PCB.
(Please refer to figures.)



Printed case

CAUTION:

- Pb free solder has a higher melting point than standard solder;
Typically the melting point is 50 °F - 70 °F (30 °C - 40 °C) higher.
Please use a soldering iron with temperature control and adjust it to 700 °F±20 °F (370 °C± 10 °C).
In case of using high temperature soldering iron, please be careful not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100 °F/600 °C).
- All products with the printed circuit board with PbF stamp or printing must be serviced with lead free solder.
When soldering or unsoldering, completely remove all of the solder from the pins or solder area,
and be sure to heat the soldering points with the lead free solder until it melts sufficiently.

Recommendations

Recommended lead free solder composition is Sn96.5 Ag3.0 Cu0.5.

4 Specifications

ITEM		SPECIFICATION		1	2	3
Power Source		AC 120 V, 60 Hz		○	○	○
Power Consumption		Power ON: Approx. 360 W Power OFF: Approx. 0.4 W (When cooling fan is stopped)		○	○	○
LCD panels		0.7" Poly silicon TFT LCD panel × 3 921 600 (1 280 × 720) stripe pixels × 3 panels (16:9)		○	○	○
Display		52-inch, 16 : 9 aspect ratio		○	–	–
		56-inch, 16 : 9 aspect ratio		–	○	–
		61-inch, 16 : 9 aspect ratio		–	–	○
Speaker		2 Speakers 20 W [10 W + 10 W] (10 % THD)		○	○	○
Light Source		LUXIM® LIFI™ Electrodeless RF Lamp (LFS4000)		○	○	○
Channel Capability (Digital/Analog)		VHF/UHF Cable	2-69 1-135	○	○	○
Input Terminals	PC INPUT	RGB analog AUDIO	0.7 Vp-p (75 Ω) (D-SUB 15P) 0.5 Vrms (M3 Stereo mini Pin Jack)	○	○	○
	AV INPUT 1-3	VIDEO S-VIDEO AUDIO L-R	1.0 Vp-p (75 Ω) (RCA Pin Jack) Y: 1 Vp-p (75 Ω), C: 0.286 Vp-p (75 Ω) (Mini DIN 4 pin) 0.5 Vrms (RCA Pin Jack × 2)	○	○	○
	COMPONENT VIDEO INPUT 1-2	Y P _B / P _R AUDIO L-R	1.0 Vp-p (with sync) (75 Ω) (Pin Jack) ± 0.35 Vp-p (75 Ω) (Pin Jack × 2) 0.5 Vrms (RCA Pin Jack × 2)	○	○	○
	HDMI 1-3	HDMI type A Connector · This Projection Display supports “HDAVI Control 2” function. AUDIO L-R 0.5 Vrms (RCA Pin Jack Type × 2)		○	○	○
Card slot		SD CARD slot × 1		○	○	○
Output signals (AV OUT)		VIDEO AUDIO L-R	1.0 Vp-p (75 Ω) (RCA Pin Jack) 0.5 Vrms (RCA Pin Jack × 2)	○	○	○
Dimensions (W × H × D)		1 192 mm (W) × 836 mm (H) × 418 mm (D) 46.9" (W) × 32.9" (H) × 16.5" (D)		○	–	–
		1 322 mm (W) × 923 mm (H) × 451 mm (D) 52" (W) × 36.3" (H) × 17.8" (D)		–	○	–
		1 432 mm (W) × 996 mm (H) × 483 mm (D) 56.4" (W) × 39.2" (H) × 19" (D)		–	–	○
Weight (Mass)		27 kg (59.5 lbs.) Net		○	–	–
		32 kg (70.5 lbs.) Net		–	○	–
		34 kg (74.9 lbs.) Net		–	–	○
Operating conditions		Temperature : 0 °C – 35 °C (32 °F - 95 °F) Humidity : 20 % – 80 % (non-condensing)		○	○	○
Solder		This model uses lead free solder (PbF).		○	○	○

1. PT-50LCX7/PT-50LCX7K

2. PT-56LCX70/PT-56LCX7/PT-56LCX70-K

3. PT-61LCX70/PT-61LCX7/PT-61LCX70-K

Design and Specifications are subject to change without notice.

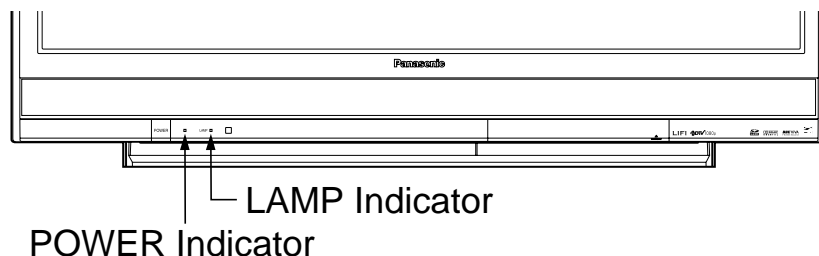
Weight and Dimensions shown are approximate.

5 Service Mode

INDICATIONS FOR ERROR CONDITIONS

Each Indicator facilitates finding the cause of an error.

When an error is detected, the Lamp goes off and the indicators on the front flash.



(Note 1)

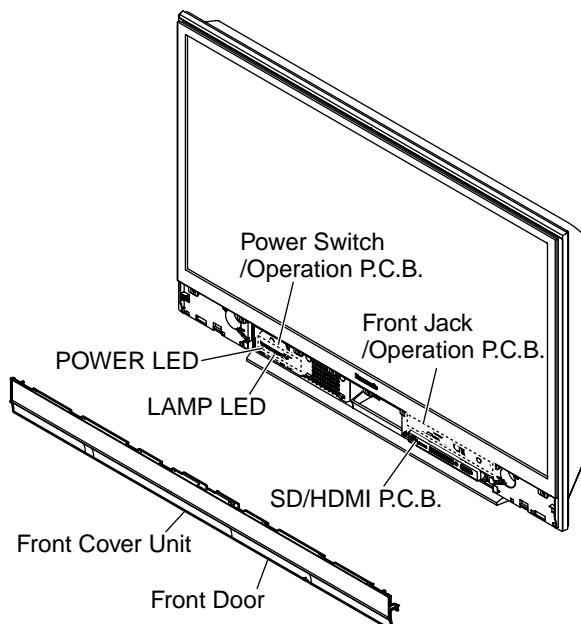
Priority	Error Information	POWER Indicator flashes orange	LAMP Indicator flashes red	SOS	LAMP OFF	RESET
1	Over voltage/Over current (SOS)	1	-	01	○	AC ON/OFF
2	Abnormal voltage (DTV+9V line)	2	-	02	○	
3	Abnormal voltage (SUB+5V line)	3	-	03	○	
4	Abnormal voltage (MAIN+3.3V line)	4	-	04	○	
5	IC4501 (Audio Amp) failure	6	-	06	○	
6	Communication error between Peaks (IC8001) and TV Microcontroller (IC6004)	7	-	07	○	
7	Communication error between Peaks (IC8001) and TV Microcontroller (IC6004)	9	-	09	○	
8	Abnormal voltage (POWER+17V line)	10	-	0A	○	Power ON/OFF
13	Lamp does not light up	-	2	02	○	
10	Lamp failure	-	3	03	○	
11	Abnormal Lamp temperature	-	4	04	○	
12	Lamp communication error	-	5	05	○ (Note 2)	AC ON/OFF
15	Lamp Fan stops	-	8	08	○	
16	Fan Case Unit (OPT Fan) stops	-	9	09	○	
17	Front Fan or Rear Fan stops	-	10	0A	○	
18	Rear Fan or Front Fan stops	-	11	0B	○	
14	Rear Jack PCB connection error	-	12	0C	○	Power ON/OFF
9	Abnormal Lamp input voltage (+28V)	-	13	0D	○	

Note:

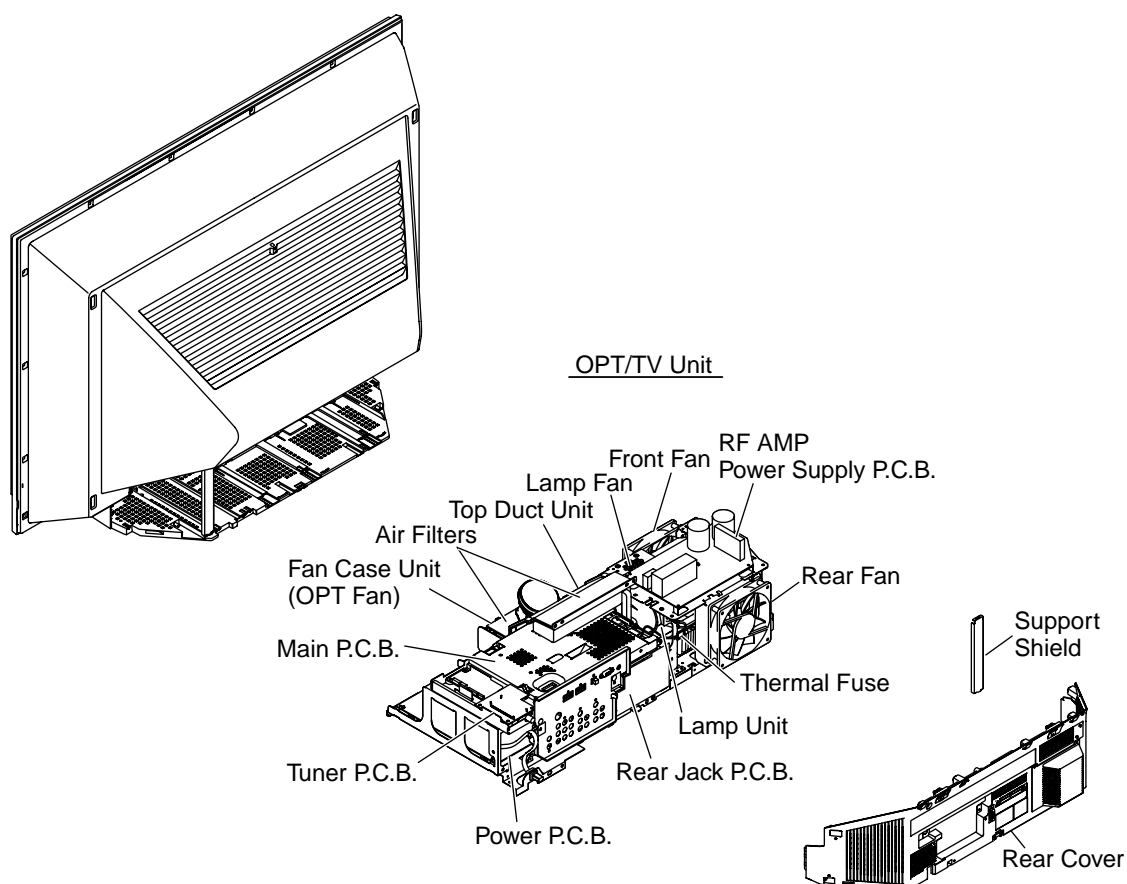
1. The detected Error data will be stored in the EEPROM, and SOS History (Code) is displayed in Self Check mode or Service Adjust mode (SRV-TOOL).
2. The Lamp Indicator will flash X5 immediately after the Lamp goes off. For this SOS only, the TV power will remain on.

MAIN PARTS LOCATION

<Front View>



<Rear View>



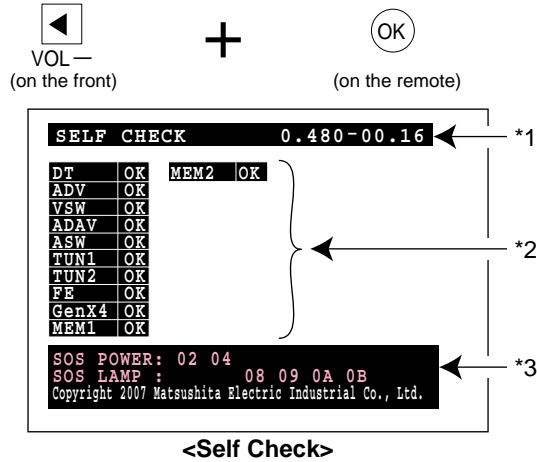
SELF CHECK

In this mode, the following information can be confirmed on the screen:

- Peaks software version and EEPROM data version
- Communication check between Peaks IC and each ICs
- SOS History

Self Check

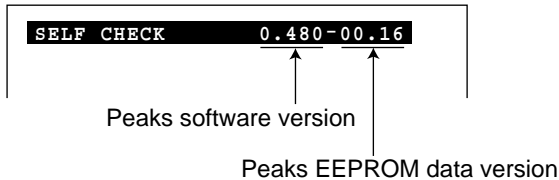
Enter:
VOLUME DOWN button + OK key
(for more than 3 seconds in power on condition)



Exit:
Unplug the AC cord.

Fig. 1-1

*1. Peaks software version and Peaks EEPROM data version



*2. Communication check results (OK or NG) between Peaks IC8001 and each of the following ICs.

(Communication check for I ² C bus)		
Display Item	ICs	Description
DT	IC8001	PEAKS internal check
ADV	IC5510	AD/HDMI Interface
VSW	IC3001	Video SW
ADAV	IC4001	Audio DSP
ASW	IC4101	Audio SW
TUN1	TU8201	Tuner PLL block
TUN2	TU8201	Tuner MTS block
FE	IC8802	Demodulator
GenX 4	IC6004	TV Microcontroller
MEM1	IC6005	GenX4 EEPROM
MEM2	IC8201	Peaks EEPROM

*3. SOS History

SOS History



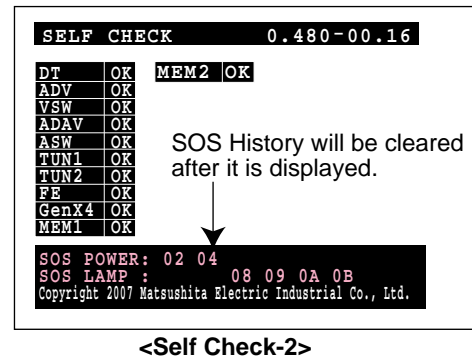
Note:
If the same SOS error occurs more than once, only one code will be displayed.

To clear SOS History, use the following Self Check-2 mode.

The SOS History and all memory function will be reset by Self Check-2.

Self Check-2

Enter:
VOLUME DOWN button + MENU key
(for more than 3 seconds in power on condition)



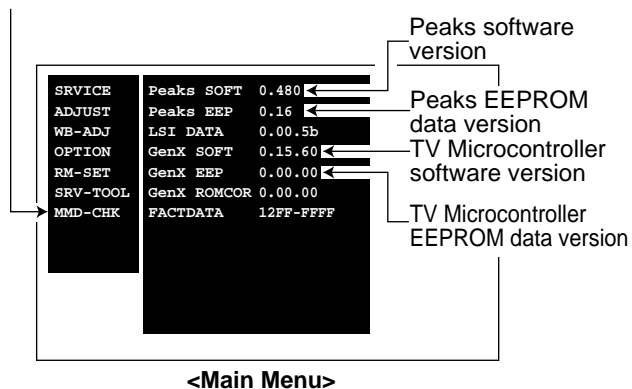
Exit:
Unplug the AC cord.

SERVICE ADJUST MODE

In this mode, the following information can be confirmed on the screen:

MMD-CHK

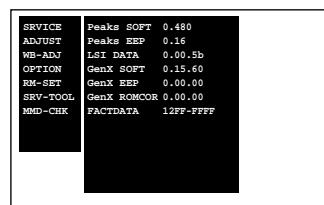
- Focus, Tilt, H/V Picture Position adjustment
- Internal pattern for LCD-CHK, GC-CHK



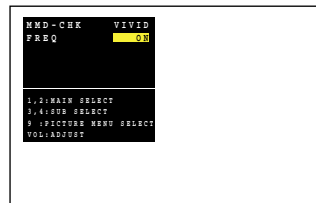
Service Adjust Mode

Enter:

VOLUME DOWN button + RECALL key (3 times)
(in power on condition)



2 key **<Main Menu>** 1 key



<MMD-CHK 1/8>

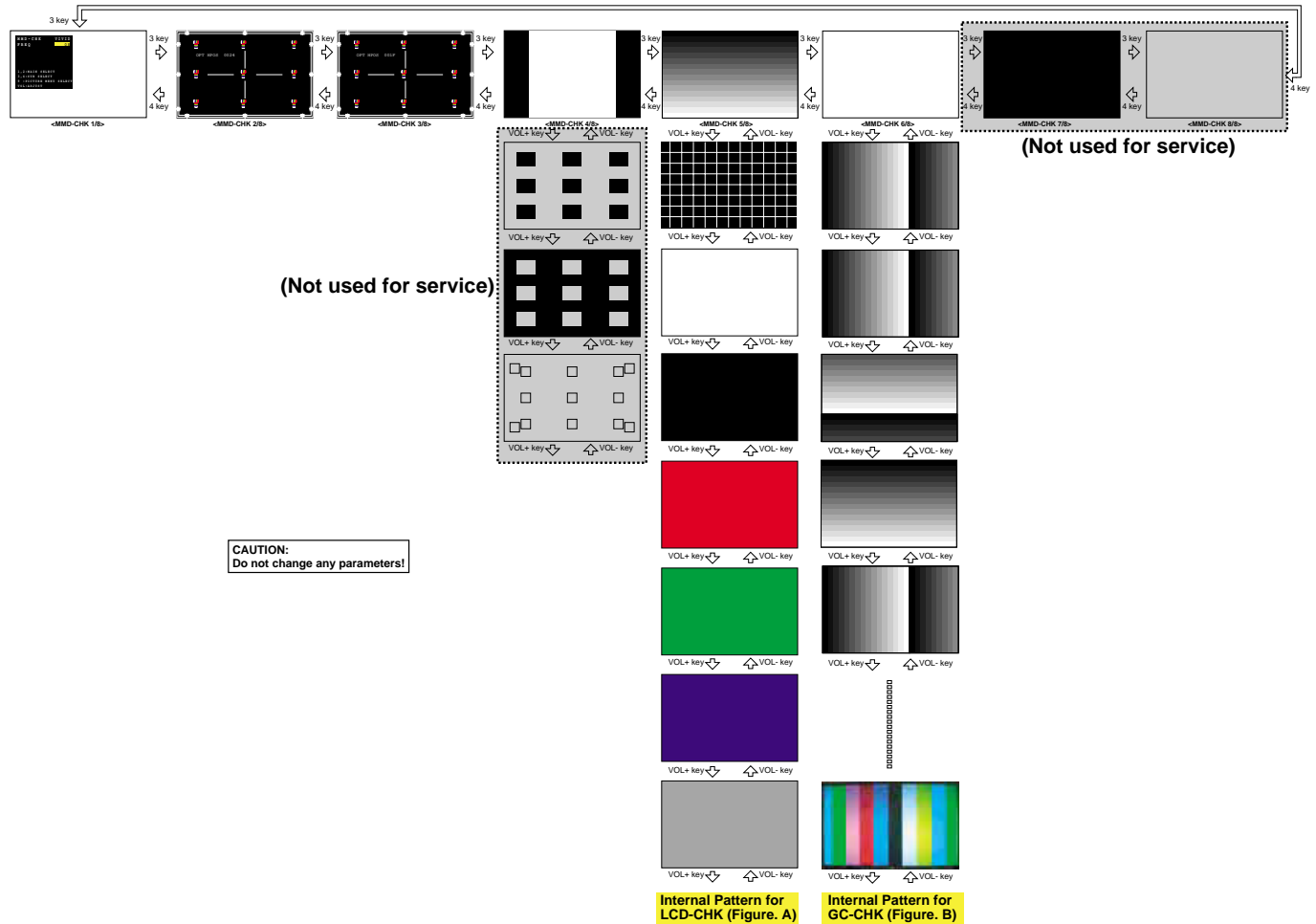
CAUTION:
Do not change any parameters!

Exit from Main Menu:
Power OFF.

Fig. 2-1

MMD-CHK 1/8~8/8 and internal pattern

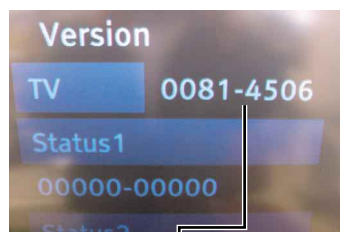
Perform the Picture Position adjustment by pressing VOL+/- key, and display the internal pattern for LCD-CHK, GC-CHK.



Note:
Press 1 key to return Main Menu.

TO READ THE PEAKS SOFTWARE VERSION AND TV MICROCONTROLLER SOFTWARE VERSION

1. Press MENU key with the power on.
2. Press CH UP/DOWN key and select "Setup." Then press OK key.
3. Press CH UP/DOWN key and select "About." Then press OK key.
4. Select "Version" and press OK key.
Version menu will appear as shown below.



0081-4506

Read every
other number
from the right:

Peaks software
Ver. : 0.480

Read every
other number
from the left:

TV Microcontroller
software Ver. : 0.156

LAMP CAUTION

The Lamp Unit becomes very hot during operation. When replacing the Lamp Unit, wait until it has cooled off (1 hour or more).

TOP DUCT UNIT NOTE

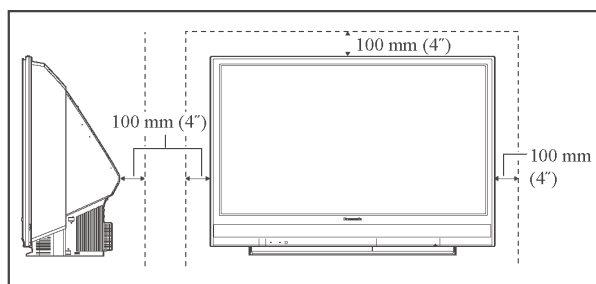
The optical parts will be exposed to the dust in the air when the Top Duct Unit is removed. Therefore, it is strongly recommend to remove the Top Duct Unit only in a clean room.

INSTALLATION DIMENSIONS DIAGRAM

Installation Dimensions Diagram

⚠ CAUTION

Keep the unit at least 100 mm (4") away from the wall to provide proper ventilation because warm air is discharged. Blocking the ventilation opening of the cooling fan may damage the unit.



RESET USER'S MEMORY FUNCTIONS

Be sure to reset the user's memory:

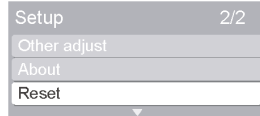
- After replacing the Main P.C.B.
- When moving the unit to a new location.

Reset

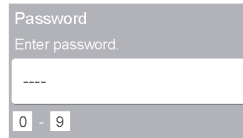
Setup is reset.

Procedure

1. Press ▲▼ to select "Reset".
2. Press OK to display the password screen.



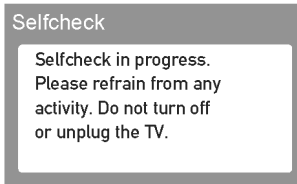
3. Enter your password by pressing the NUMBER keys to reset the Setup settings.



4. The confirmation screen is displayed. Select "Yes", and press OK.

Notes

- Performing Reset will clear all items set with Setup, such as channel settings. Use Reset with care.
- POWER indicator flashes red. After flashing stops, unplug the unit then plug it back in and turn power ON.
- When using "EZ Sync™ "HDAVI Control™"", with the device connected, set "EZ Sync" first to "Off" and then "On" using the Setup Menu.



After the above message indication disappeared, unplug the unit then plug it back in and turn power ON.

Fig. 4

Note:

SOS History will not be cleared in this function. To clear, use Self Check-2 mode.

DO NOT UNPLUG AC CORD DURING COOLING OPERATION

The lamp cooling fan will continue to operate for approximately 30 seconds after the power is turned off.

At the same time, the POWER LED will flash red.

Do not disconnect the AC Cord from the power outlet and do not open any circuit breakers while the cooling fan is still operating.

HOT CIRCUIT

Primary circuit exists on the Power P.C.B.

This circuit is identified as "HOT" on the P.C.B. and in the Service Manual. Use extreme care to prevent accidental shock when servicing.

MODEL NO. IDENTIFICATION MARK

Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK
PT-56LCX70	A
PT-61LCX70	B
PT-50LCX7	C
PT-56LCX7	D
PT-61LCX7	E
PT-50LCX7K	F
PT-56LCX70-K	G
PT-61LCX70-K	H
NOT USED	PT

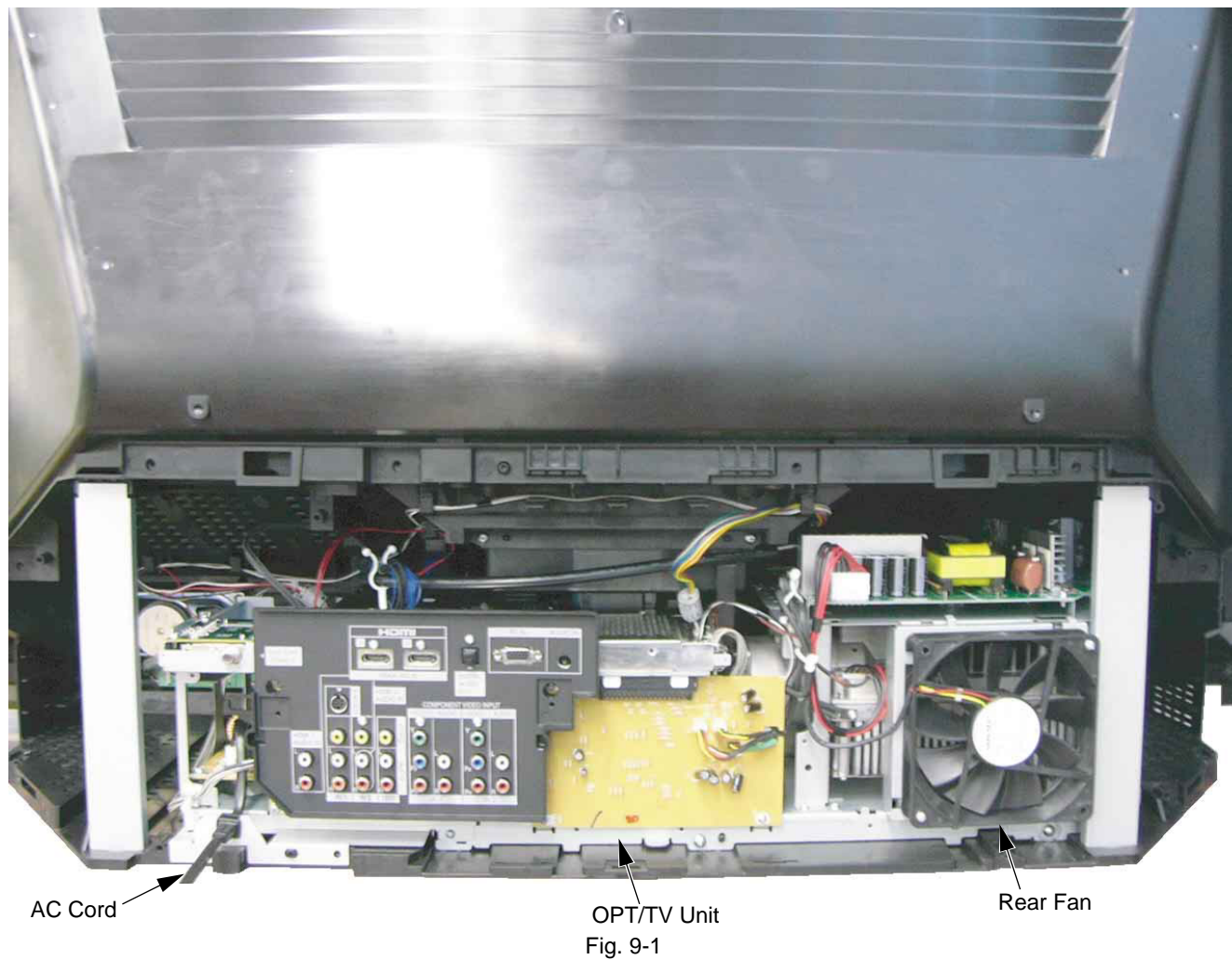
Note:

Refer to Item 3 of Schematic Diagram Notes of Schematic Diagram and Circuit Board Layout Notes, for mark "PT."

WIRE AND LEAD POSITION DIAGRAM OF THE UNIT

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.



After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.

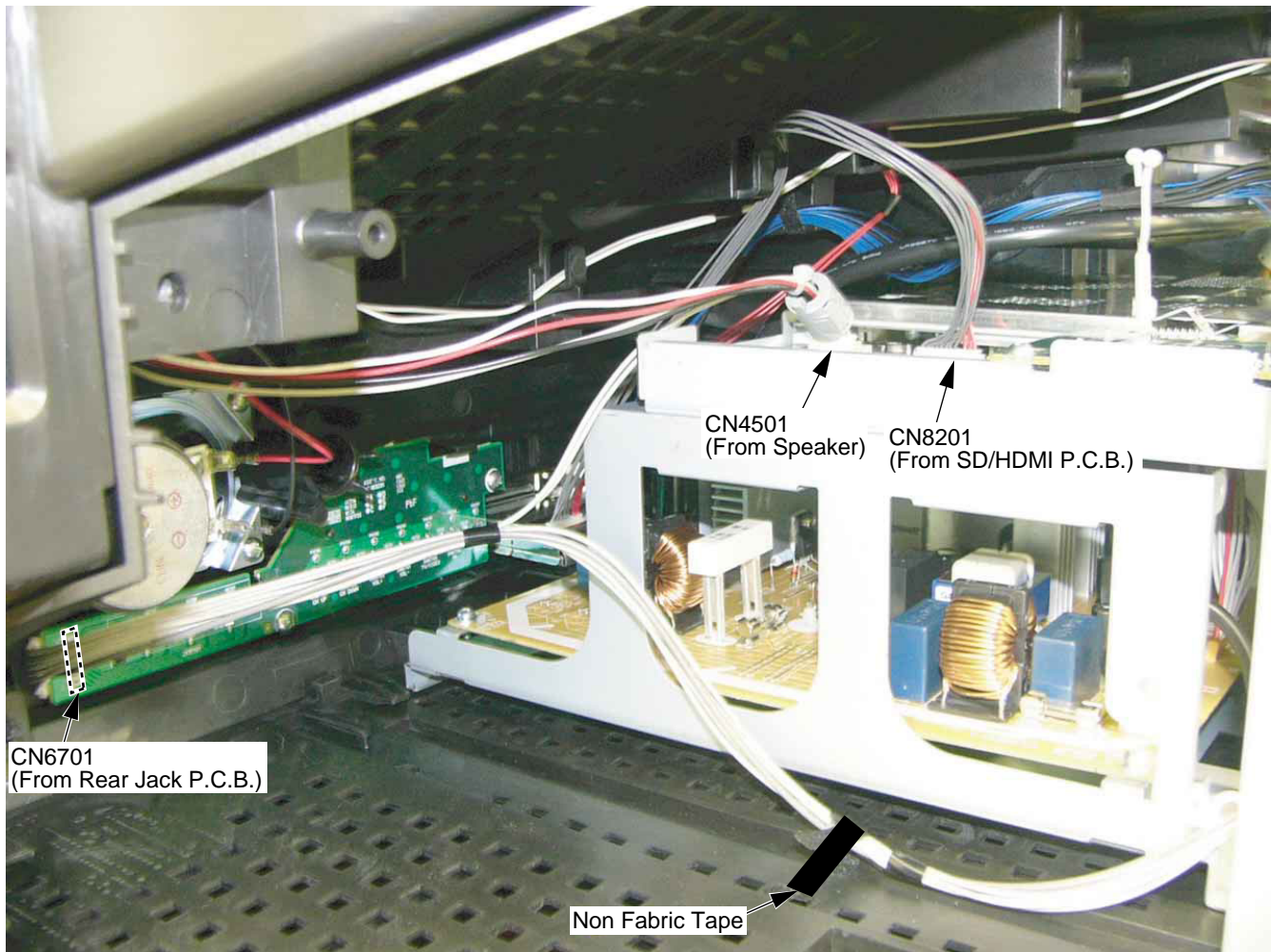


Fig. 9-2

After servicing, make sure that all wires, leads, and claspers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.

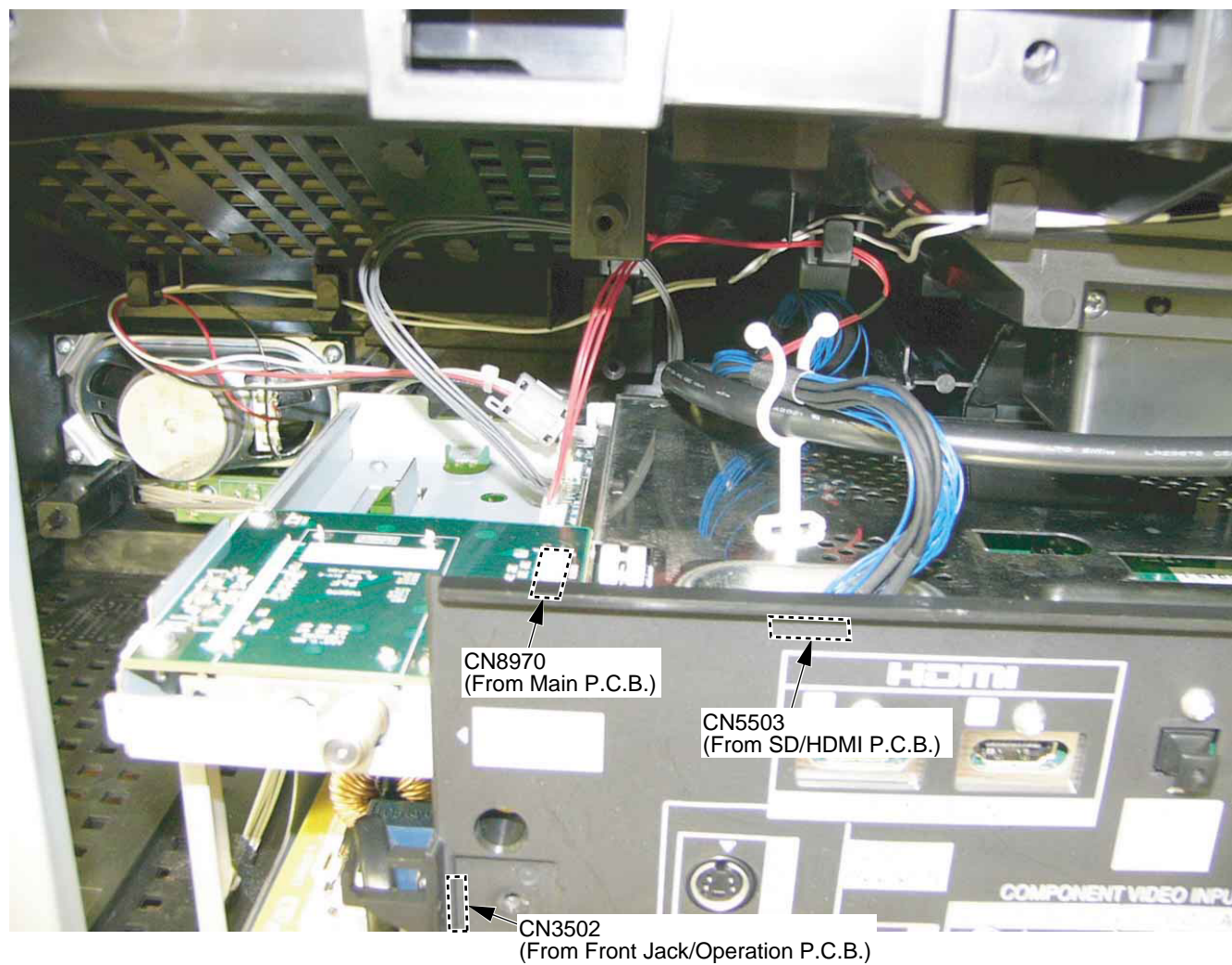


Fig. 9-3

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.

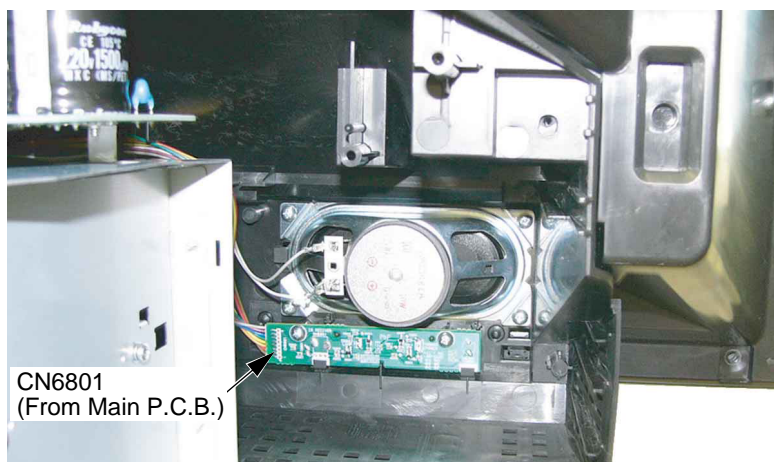
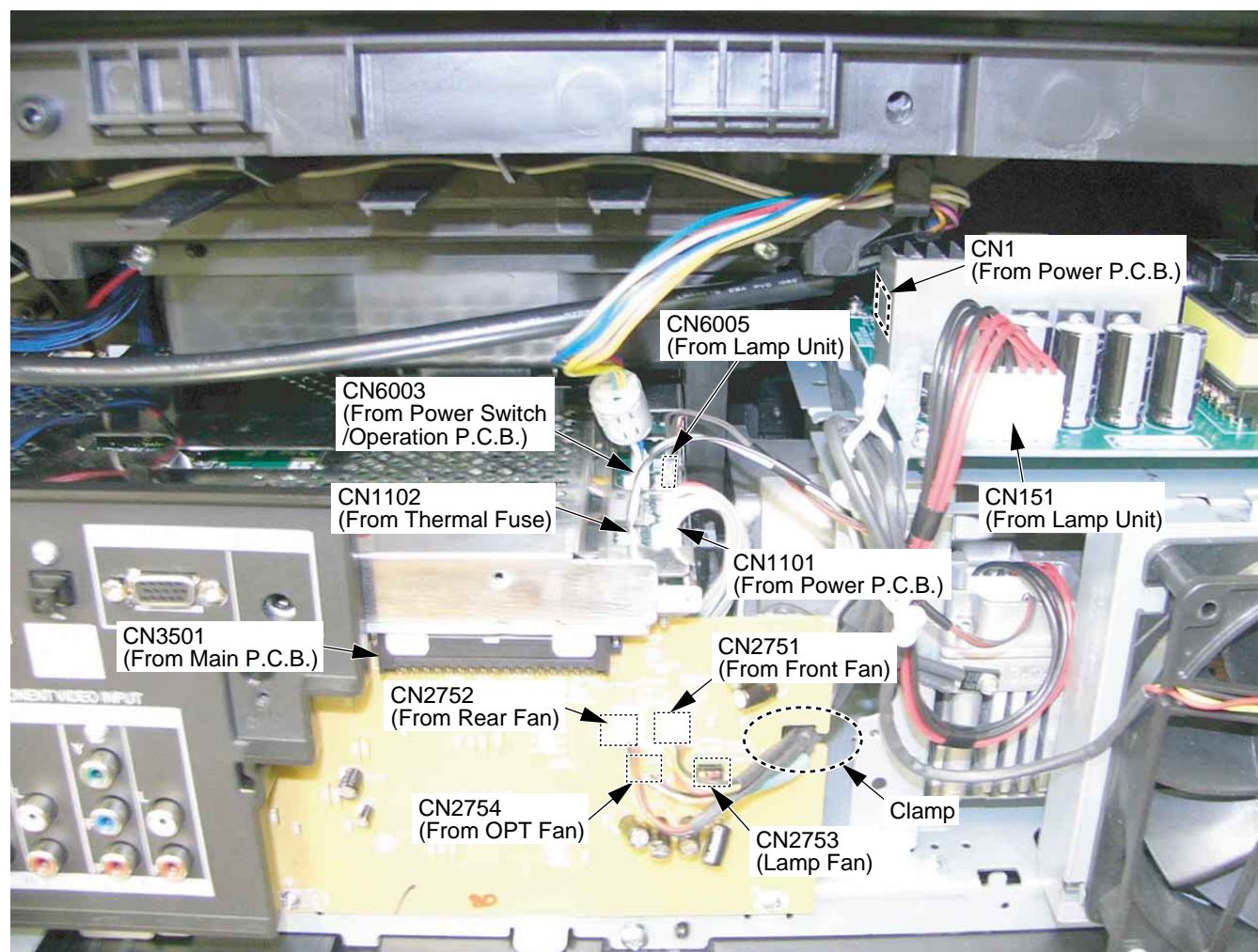


Fig. 9-4

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note: Use extreme care especially for the following.

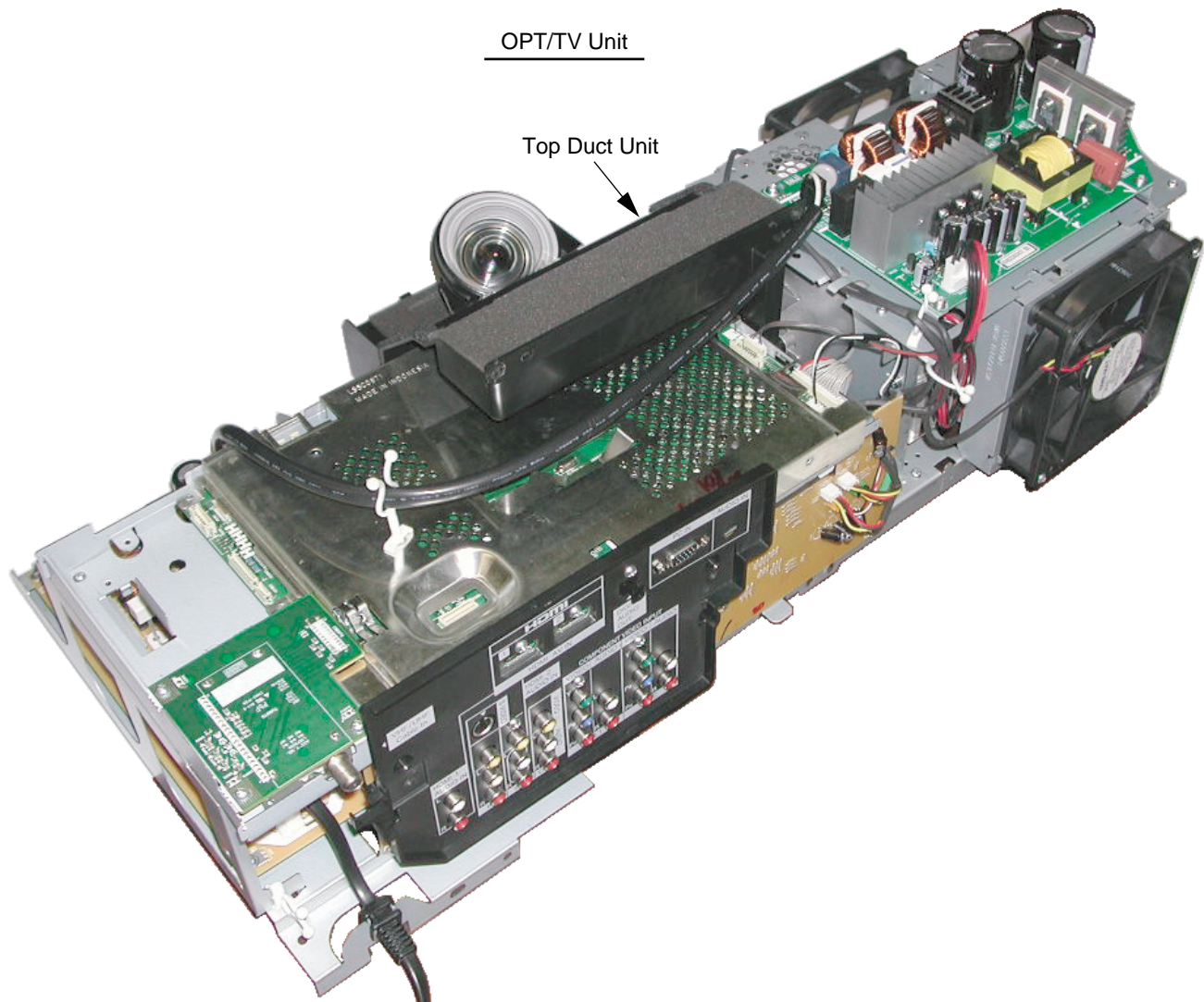


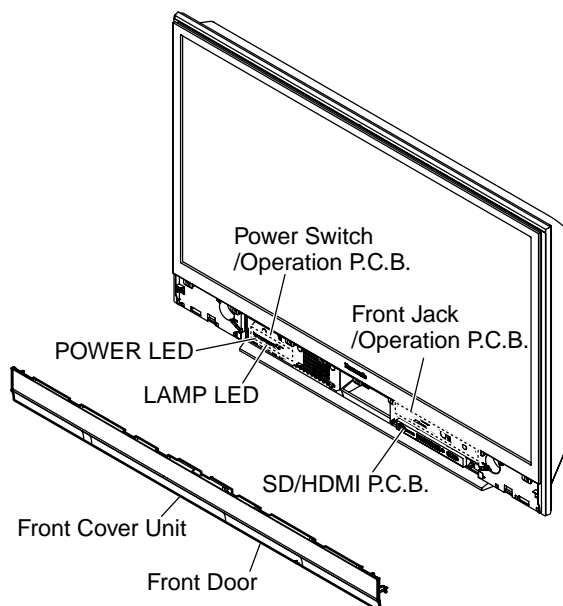
Fig. 9-5

6 Troubleshooting Guide

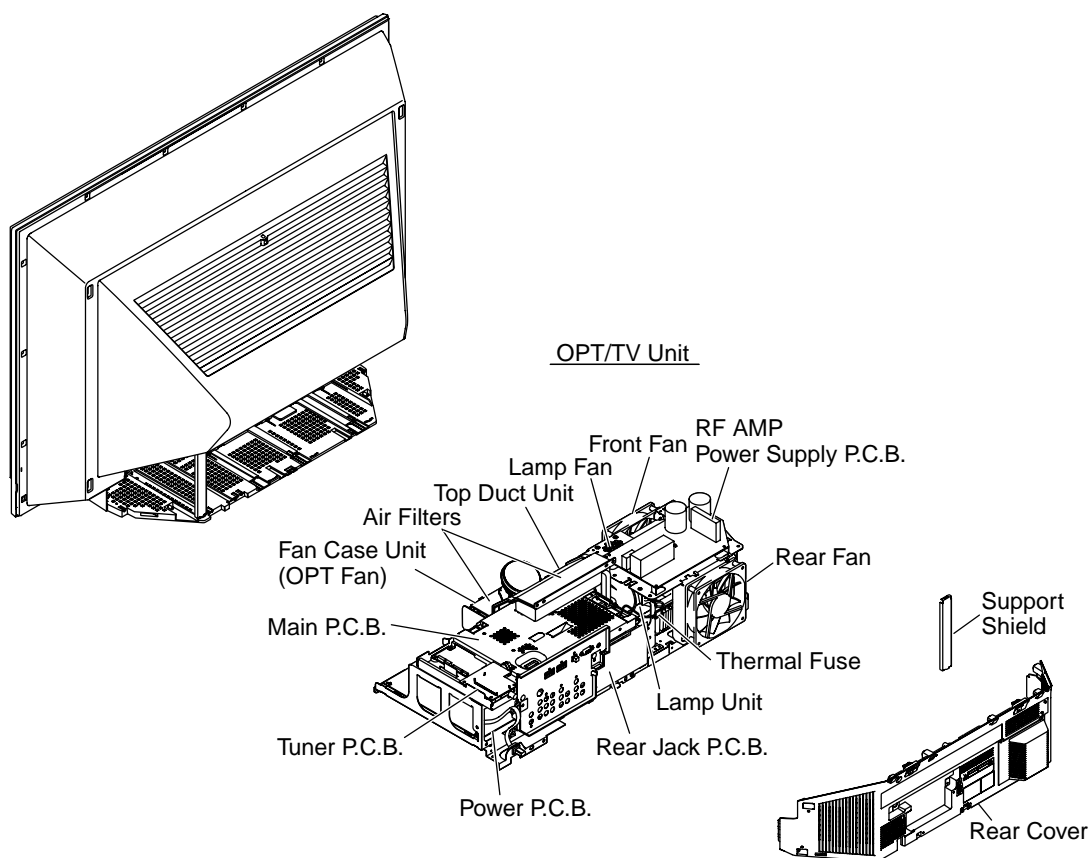
6.1. Troubleshooting Hints for Block Level Repair

MAIN PARTS LOCATION

<Front View>



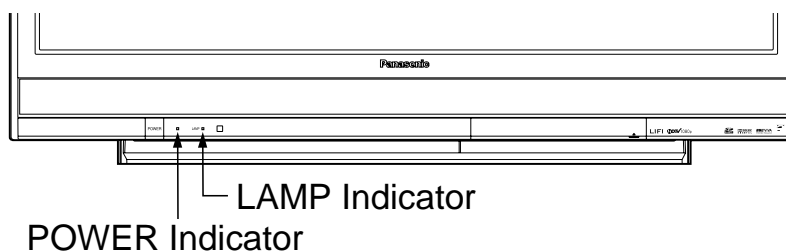
<Rear View>



INDICATIONS FOR ERROR CONDITIONS

Each Indicator facilitates finding the cause of an error.

When an error is detected, the Lamp goes off and the indicators on the front flash.

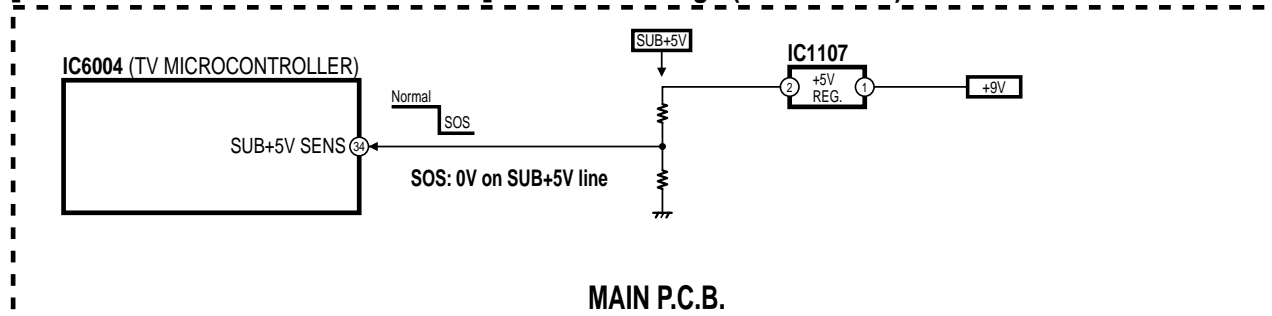
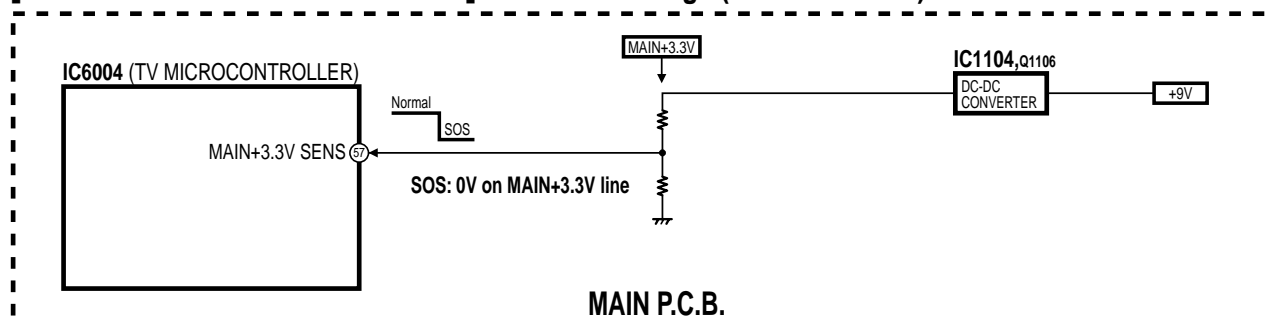
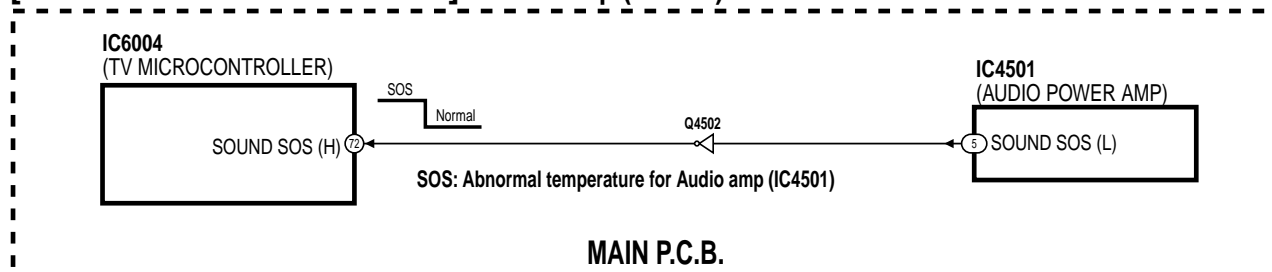
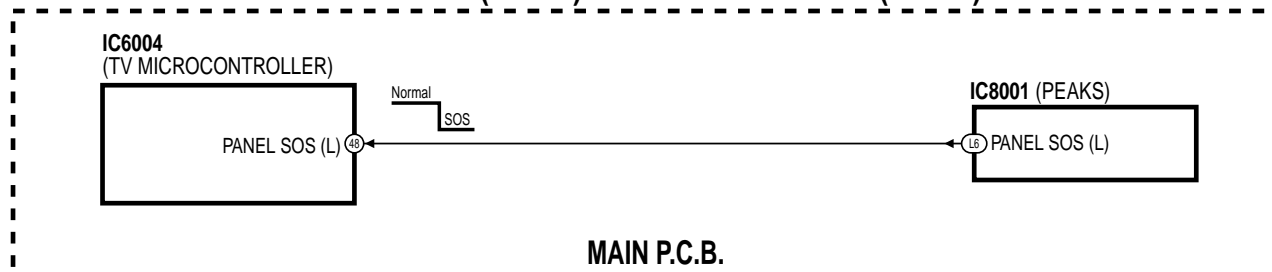


(Note 1)

Priority	Error Information	POWER Indicator flashes orange	LAMP Indicator flashes red	SOS	LAMP OFF	RESET
1	Over voltage/Over current (SOS)	1	-	01	○	AC ON/OFF
2	Abnormal voltage (DTV+9V line)	2	-	02	○	
3	Abnormal voltage (SUB+5V line)	3	-	03	○	
4	Abnormal voltage (MAIN+3.3V line)	4	-	04	○	
5	IC4501 (Audio Amp) failure	6	-	06	○	
6	Communication error between Peaks (IC8001) and TV Microcontroller (IC6004)	7	-	07	○	
7	Communication error between Peaks (IC8001) and TV Microcontroller (IC6004)	9	-	09	○	
8	Abnormal voltage (POWER+17V line)	10	-	0A	○	
13	Lamp does not light up	-	2	02	○	Power ON/OFF
10	Lamp failure	-	3	03	○	
11	Abnormal Lamp temperature	-	4	04	○	
12	Lamp communication error	-	5	05	○ (Note 2)	
15	Lamp Fan stops	-	8	08	○	AC ON/OFF
16	Fan Case Unit (OPT Fan) stops	-	9	09	○	
17	Front Fan or Rear Fan stops	-	10	0A	○	
18	Rear Fan or Front Fan stops	-	11	0B	○	
14	Rear Jack PCB connection error	-	12	0C	○	
9	Abnormal Lamp input voltage (+28V)	-	13	0D	○	Power ON/OFF

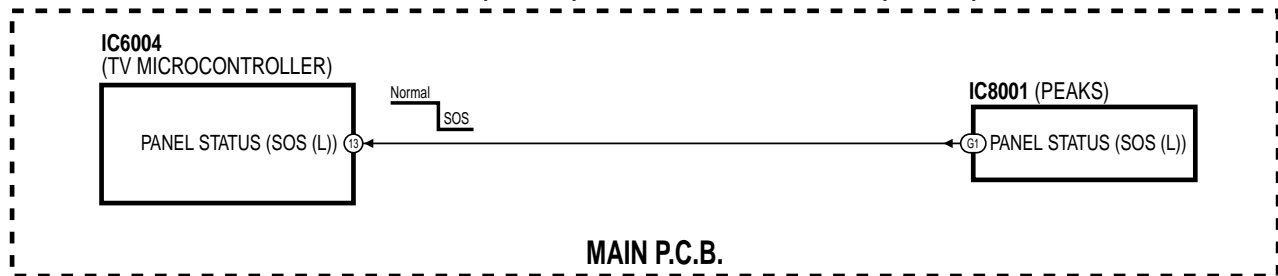
Note:

1. The detected Error data will be stored in the EEPROM, and SOS History (Code) is displayed in Self Check mode or Service Adjust mode (SRV-TOOL).
2. The Lamp Indicator will flash X5 immediately after the Lamp goes off. For this SOS only, the TV power will remain on.

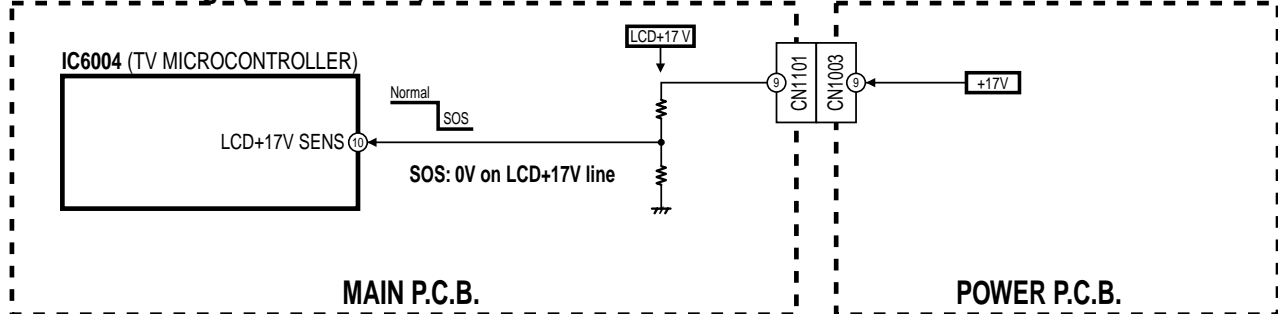
[POWER Indicator three blinks] Abnormal voltage (SUB+5V line) detection circuit**[POWER Indicator four blinks] Abnormal voltage (MAIN+3.3V line) detection circuit****[POWER Indicator six blinks] Audio Amp (IC4501) failure detection circuit****[POWER Indicator seven blinks]****Communication error between Peaks (IC8001) and TV microcontroller (IC6004) detection circuit**

[POWER Indicator nine blinks]

Communication error between Peaks (IC8001) and TV microcontroller (IC6004) detection circuit

**[POWER Indicator ten blinks]**

Abnormal voltage (LCD+17V line) detection circuit

**[LAMP Indicator two blinks]**

Lamp does not light up detection circuit

[LAMP Indicator three blinks]

Lamp failure detection circuit

[LAMP Indicator four blinks]

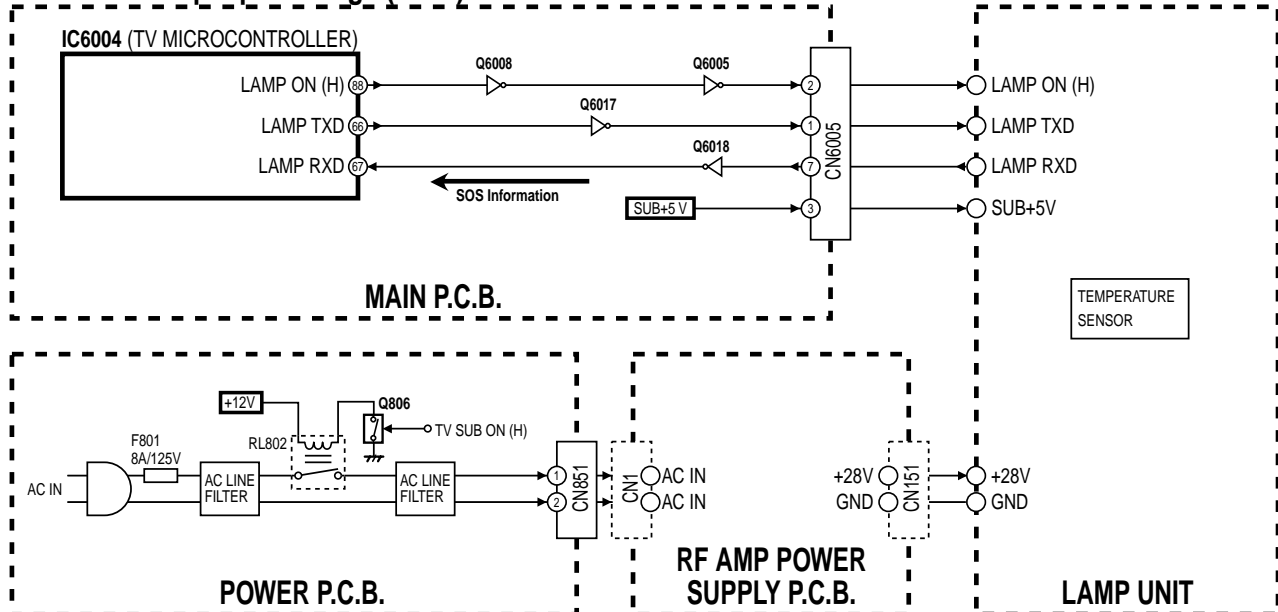
Abnormal Lamp temperature detection circuit

[LAMP Indicator five blinks]

Lamp communication error detection circuit

[LAMP Indicator thirteen blinks]

Abnormal Lamp input voltage (+28V) detection circuit



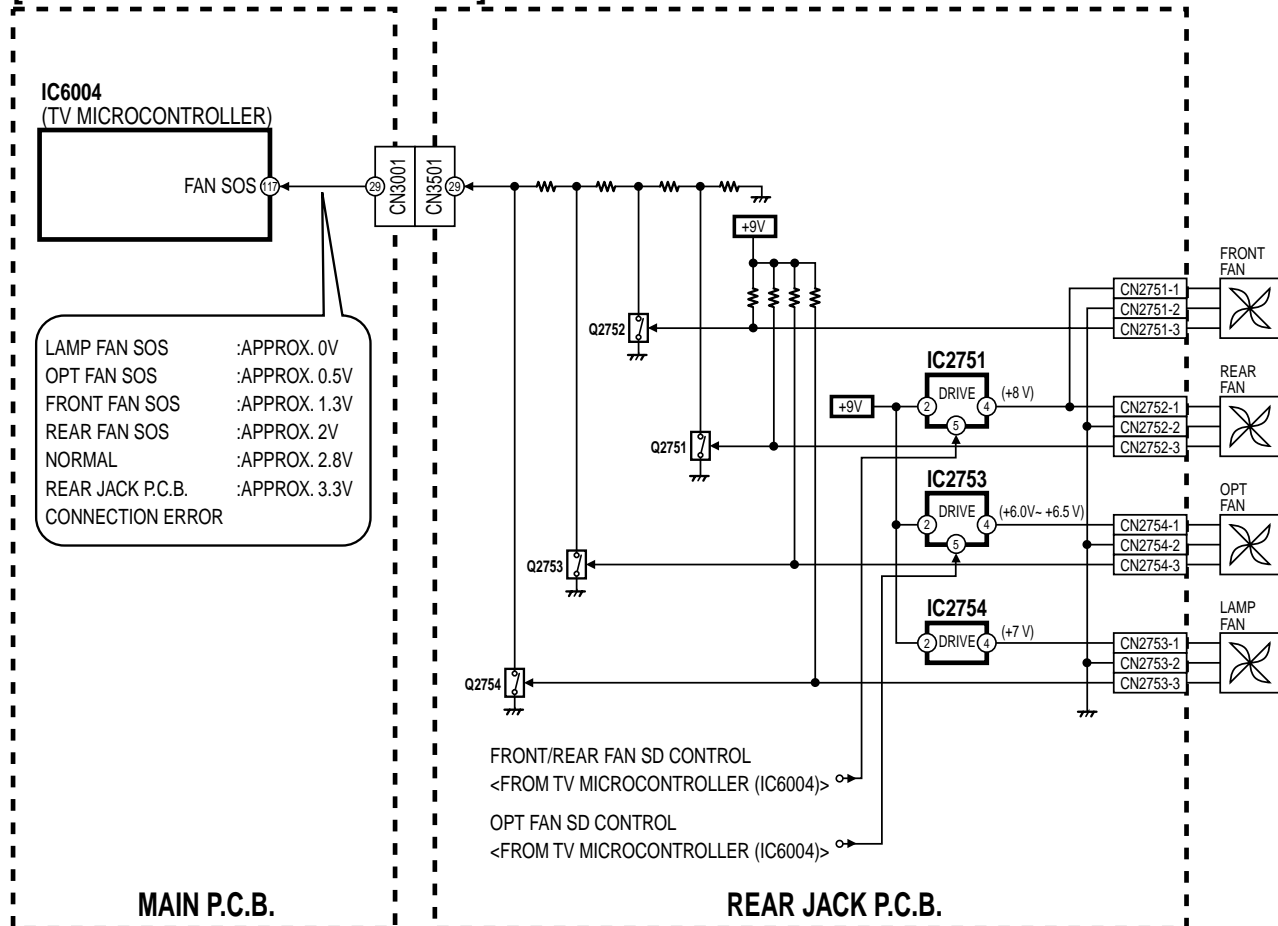
[LAMP Indicator eight blinks] LAMP Fan stops detection circuit

[LAMP Indicator nine blinks] OPT Fan stops detection circuit

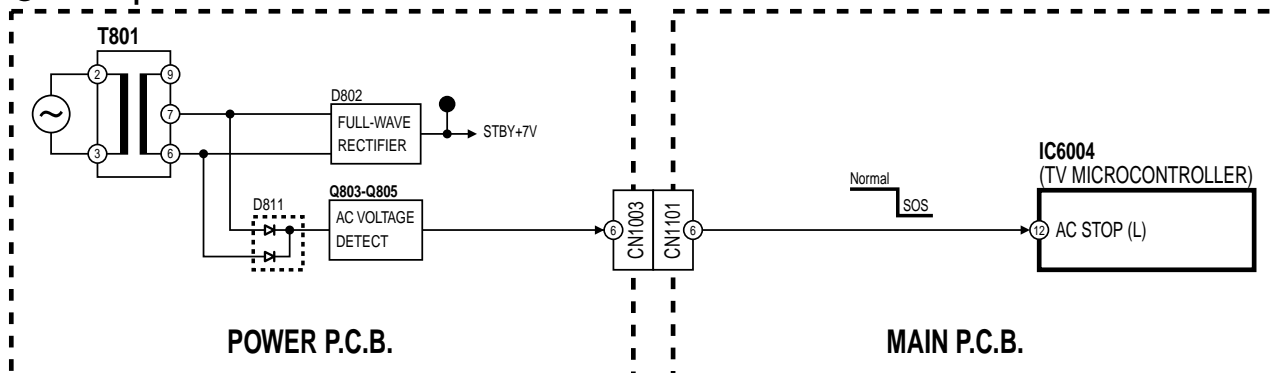
[LAMP Indicator ten blinks] Front Fan or Rear Fan stops detection circuit

[LAMP Indicator eleven blinks] Rear Fan or Front Fan stops detection circuit

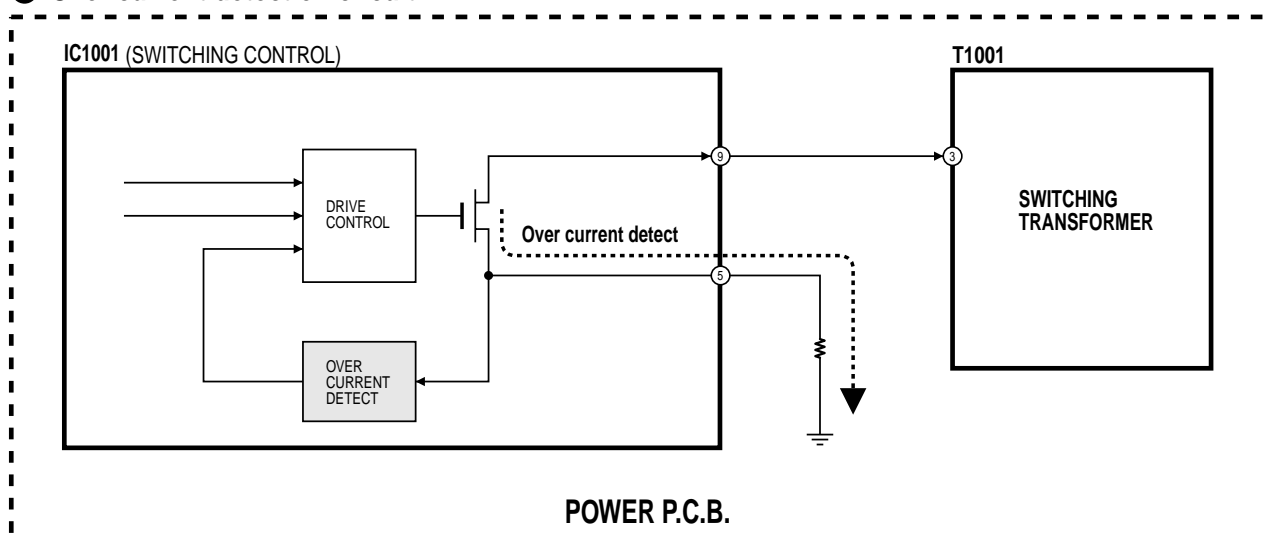
[LAMP Indicator twelve blinks] Rear Jack P.C.B. connection error detection circuit



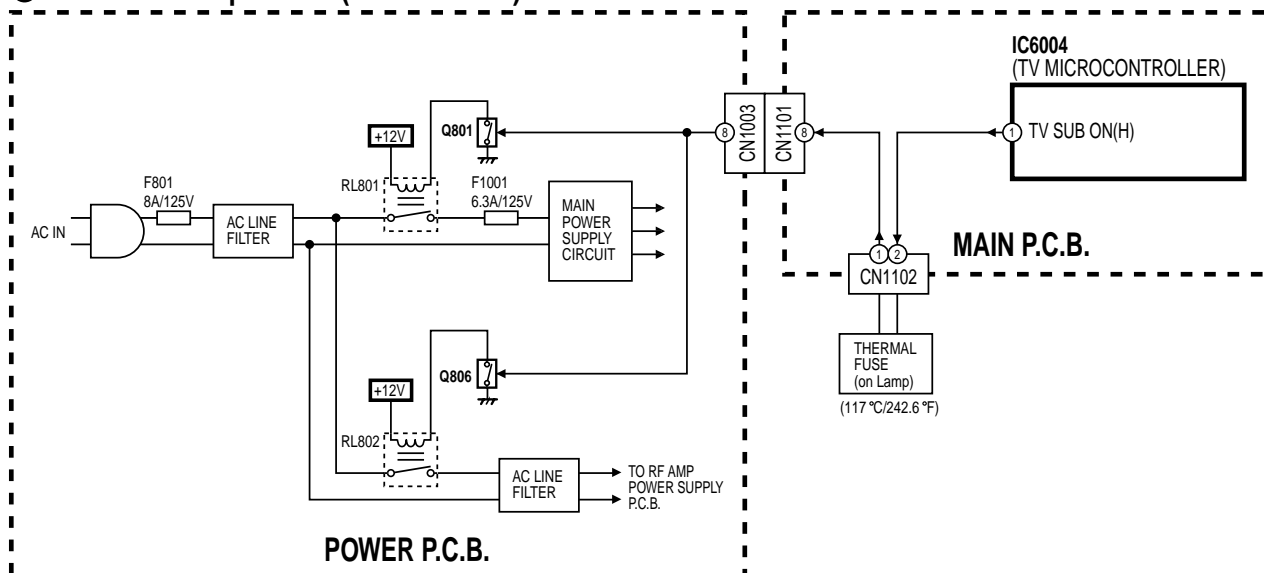
● AC stop detection circuit



● Over current detection circuit



● Abnormal Temperature (Thermal fuse) detection circuit



How to solve problems indicated by the Error Indication

(The symptom of all errors is that the Lamp goes off)

Note: Before performing troubleshooting, confirm that all connector cables in the unit are connected correctly.

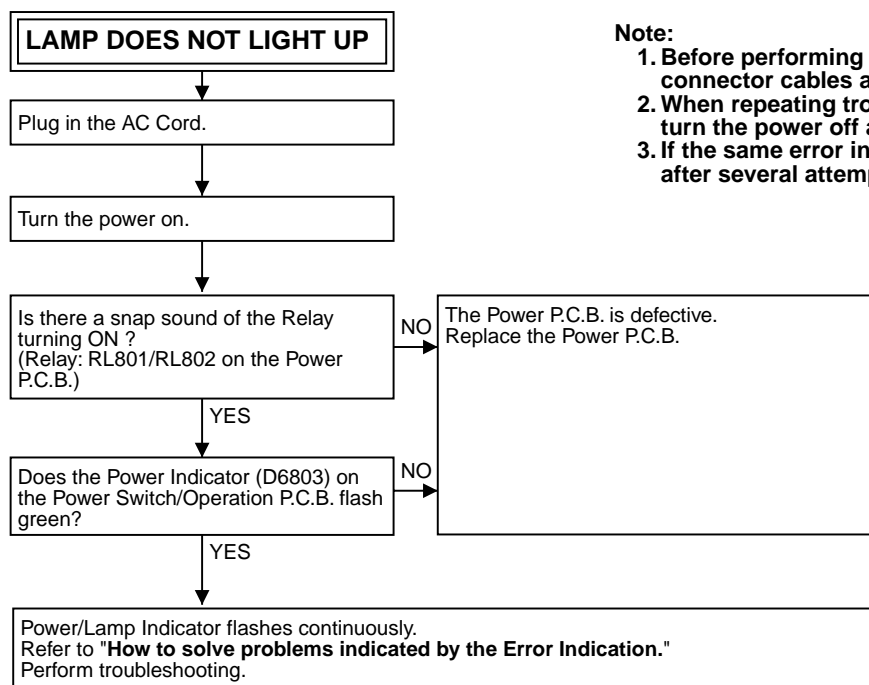
POWER Indicator	Problem	Possible Solution
1	[POWER Indicator one blink] The following voltage lines on the Main P.C.B. is over current. • SUB+5V line • SUB+1.8V line • SUB+3.3V line • SUB+1.2V line The following voltage lines on the Main P.C.B. is over voltage. • SUB+5V line • SUB+1.8V line • SUB+3.3V line • SUB+1.2V line	1. Replace the Power P.C.B. 2. If still NG, replace the OPT/TV Unit.
2	[POWER Indicator two blinks] DT+9V line error.	1. Check that Connector CN1102 (Thermal Fuse) on the Main P.C.B. is connected firmly. 2. If still NG, replace the Power P.C.B. 3. If still NG, replace the OPT/TV Unit.
3	[POWER Indicator three blinks] SUB+5V line error.	1. Replace the OPT/TV Unit.
4	[POWER Indicator four blinks] MAIN+3.3V line error.	
6	[POWER Indicator six blinks] AUDIO AMP (IC4501) failure	
7	[POWER Indicator seven blinks] Communication error between Peaks (IC8001) and TV microcontroller (IC6004) on the Main P.C.B.	
9	[POWER Indicator nine blinks] Communication error between Peaks (IC8001) and TV microcontroller (IC6004) on the Main P.C.B.	
10	[POWER Indicator ten blinks] LCD+17V line error.	1. Replace the Power P.C.B. 2. If still NG, replace the OPT/TV Unit.

How to solve problems indicated by the Error Indication

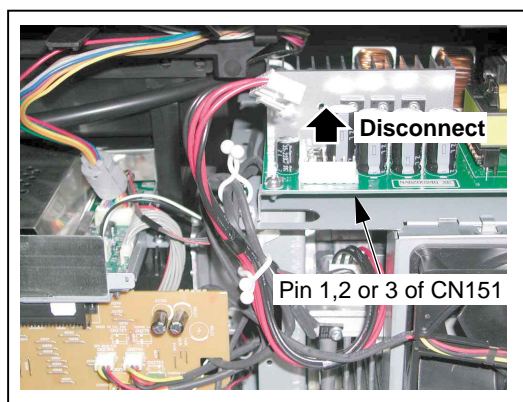
(The symptom of all errors is that the Lamp goes off)

Note: Before performing the troubleshooting, confirm that all connector cables in the unit are connected correctly.

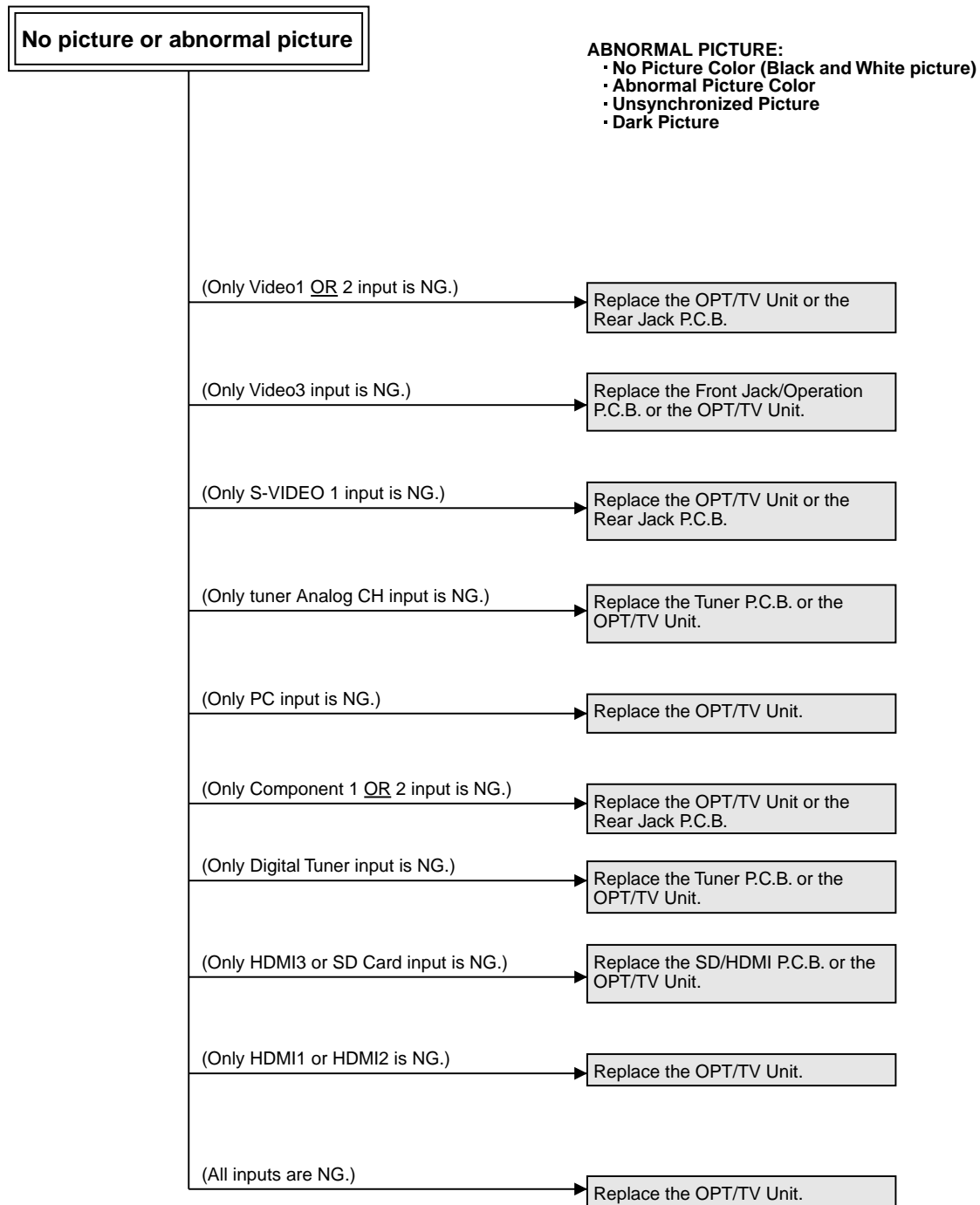
LAMP Indicator	Problem	Possible Solution
2	[LAMP Indicator two blinks] Lamp does not light up.	1. Try to turn on the power several times. (Wait 5 minutes before retrying.) 2. If still NG, replace the Lamp Unit.
3	[LAMP Indicator three blinks] Lamp failure (Internal Lamp thermistor open or short).	1. Try to turn on the power several times. (Wait 5 minutes before retrying.) 2. If still NG, replace the Lamp Unit.
4	[LAMP Indicator four blinks] Abnormal Lamp temperature (more than 92 °C).	1. Relocate the unit to a proper location. Keep the unit at least 100 mm (4") away from the wall to provide proper ventilation because warm air is discharged. Blocking the ventilation opening of the cooling fan may damage the unit. 2. Wait until the Lamp has cooled off (approximately 1 hour) and try to turn on the power several times. 3. If still NG, check whether the Fans rotate normally. 4. If still NG, replace the Lamp Unit.
5	[LAMP Indicator five blinks] Lamp communication error.	1. Try to turn on the power several times. (Wait 5 minutes before retrying.) 2. If still NG, check that the cable between CN6005 on the Main P.C.B. and Lamp Unit is connected firmly.
8	[LAMP Indicator eight blinks] Cooling Fan (Lamp Fan) malfunction.	1. Check that Connector CN2753 on the Rear Jack P.C.B. is connected firmly. 2. If still NG, replace the Lamp Fan.
9	[LAMP Indicator nine blinks] Cooling Fan (OPT Fan) malfunction.	1. Check that Connector CN2754 on the Rear Jack P.C.B. is connected firmly. 2. If still NG, replace the OPT/TV Unit (Fan Case Unit (OPT Fan)).
10	[LAMP Indicator ten blinks] Cooling Fan (Front Fan or Rear Fan) malfunction.	1. Check that Connector CN2751 or CN2752 on the Rear Jack P.C.B. is connected firmly. 2. If still NG, check whether the Front Fan or Rear Fan stopped and replace it. (Note: They are same Fan.)
11	[LAMP Indicator eleven blinks] Cooling Fan (Rear Fan or Front Fan) malfunction.	1. Check that Connector CN2752 or CN2751 on the Rear Jack P.C.B. is connected firmly. 2. If still NG, check whether the Front Fan or Rear Fan stopped and replace it. (Note: They are same Fan.)
12	[LAMP Indicator twelve blinks] Rear Jack P.C.B. connection error.	1. Check that Connector CN3501 on the Rear Jack P.C.B. is connected into Connector CN3001 on the Main P.C.B. firmly.
13	[LAMP Indicator thirteen blinks] Abnormal Lamp input voltage (+26V) Normal: +26V Abnormal: less than +20V	1. Try to turn on the power several times. (Wait 5 minutes before retrying.) 2. If still NG, check that Connector CN1 and CN151 on the RF AMP Power Supply P.C.B. are connected firmly. 3. If still NG, unplug the AC Cord and disconnect CN151 connector cable and check voltage at Pin 1, 2 or 3 of CN151 on the RF AMP Power Supply P.C.B. See Figure a. If OK (+26V), replace the Lamp Unit. If NG, check the voltage between Pin 1 and Pin 2 of CN1 on the RF AMP Power Supply P.C.B. If OK (AC120V), replace the RF AMP Power Supply P.C.B. If NG, replace the Power P.C.B.

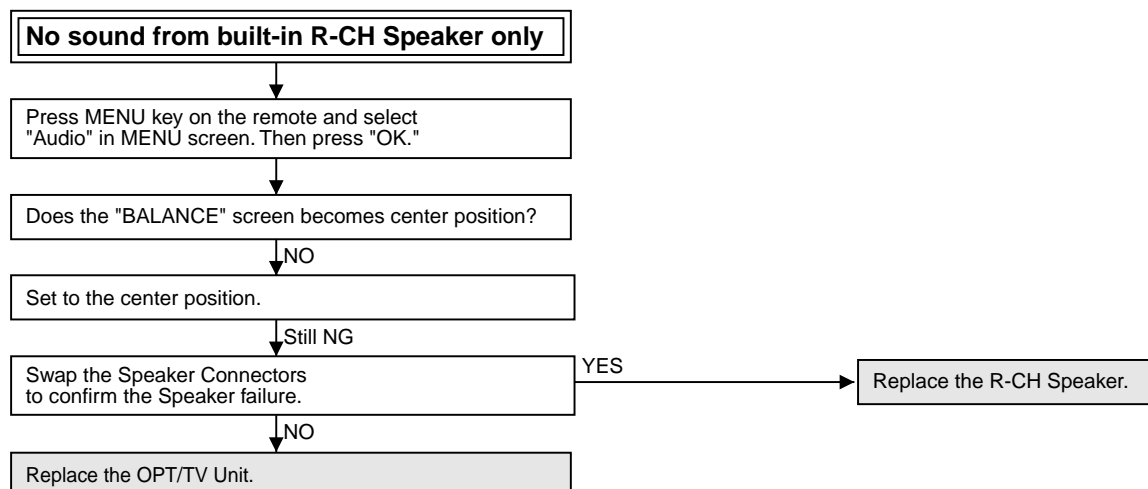
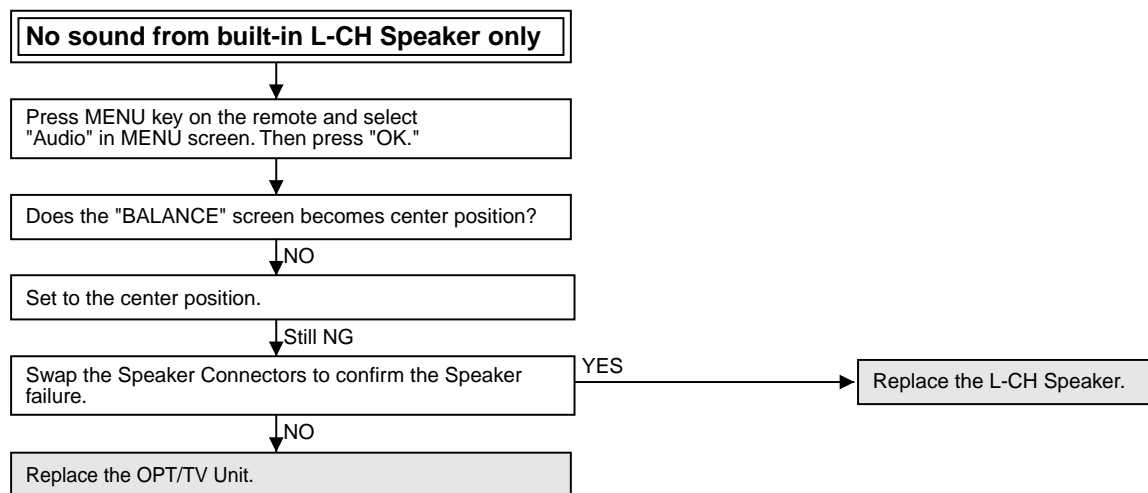
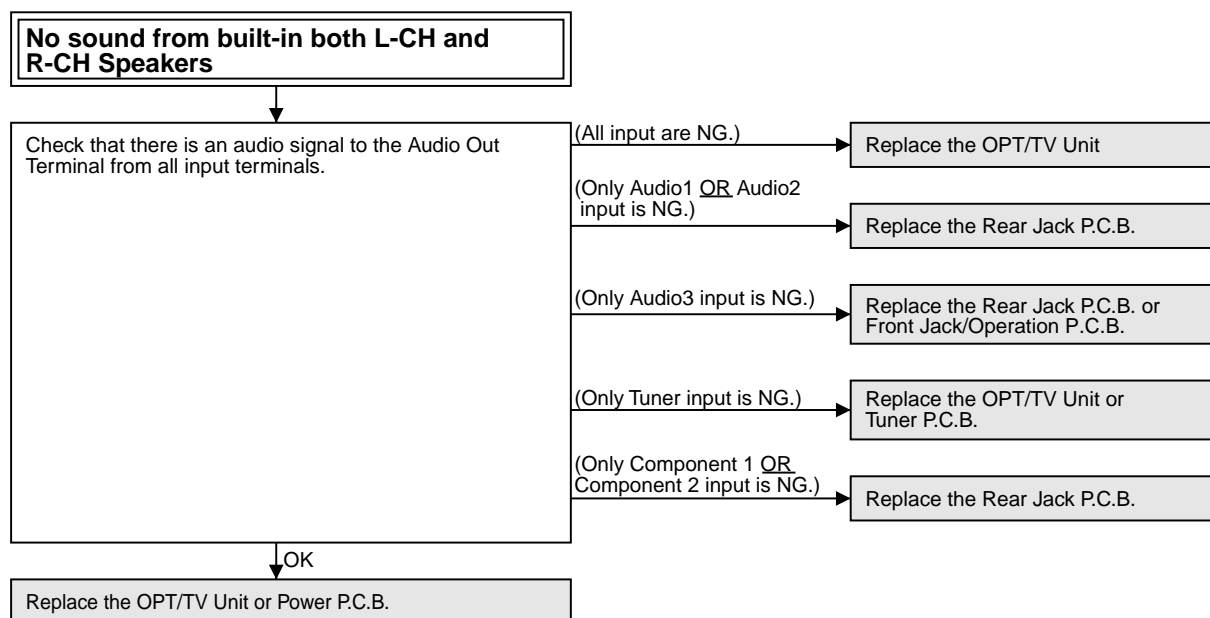
**Note:**

1. Before performing troubleshooting, confirm that all connector cables are connected properly.
2. When repeating troubleshooting, be sure to turn the power off and unplug the AC Cord.
3. If the same error indication repeatedly occurs after several attempts, proceed to the next step.

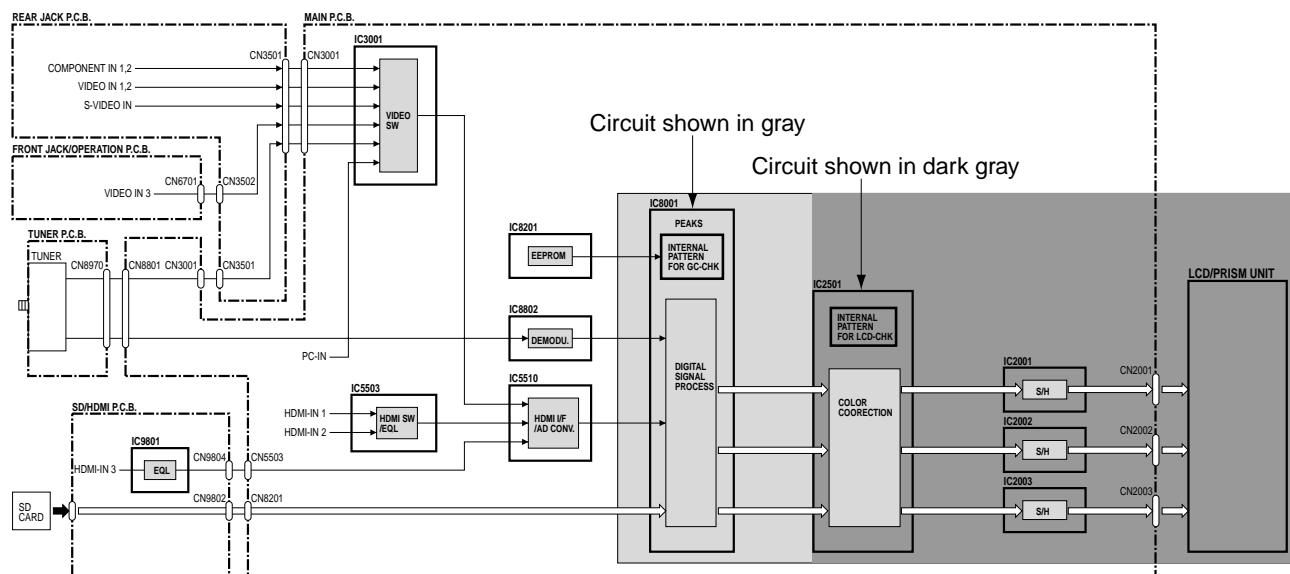
**Figure. a**

HOW TO DETERMINE WHICH P.C.B. IS DEFECTIVE





Tips for determining defective circuit in case of picture problem



Display the internal pattern for "LCD-CHK" in Service Adjust Mode.
Refer to "HOW TO DISPLAY THE INTERNAL PATTERN FOR LCD-CHK" as shown in Figure A.

If the internal pattern is OK, the circuit shown in dark gray can be judged OK.

Display the internal pattern for "GC-CHK" in Service Adjust Mode.
Refer to "HOW TO DISPLAY THE INTERNAL PATTERN FOR GC-CHK" as shown in Figure B.

If the internal pattern is OK, the circuit shown in gray can be judged OK.

HOW TO DISPLAY THE INTERNAL PATTERN

Service Adjust Mode

Enter:

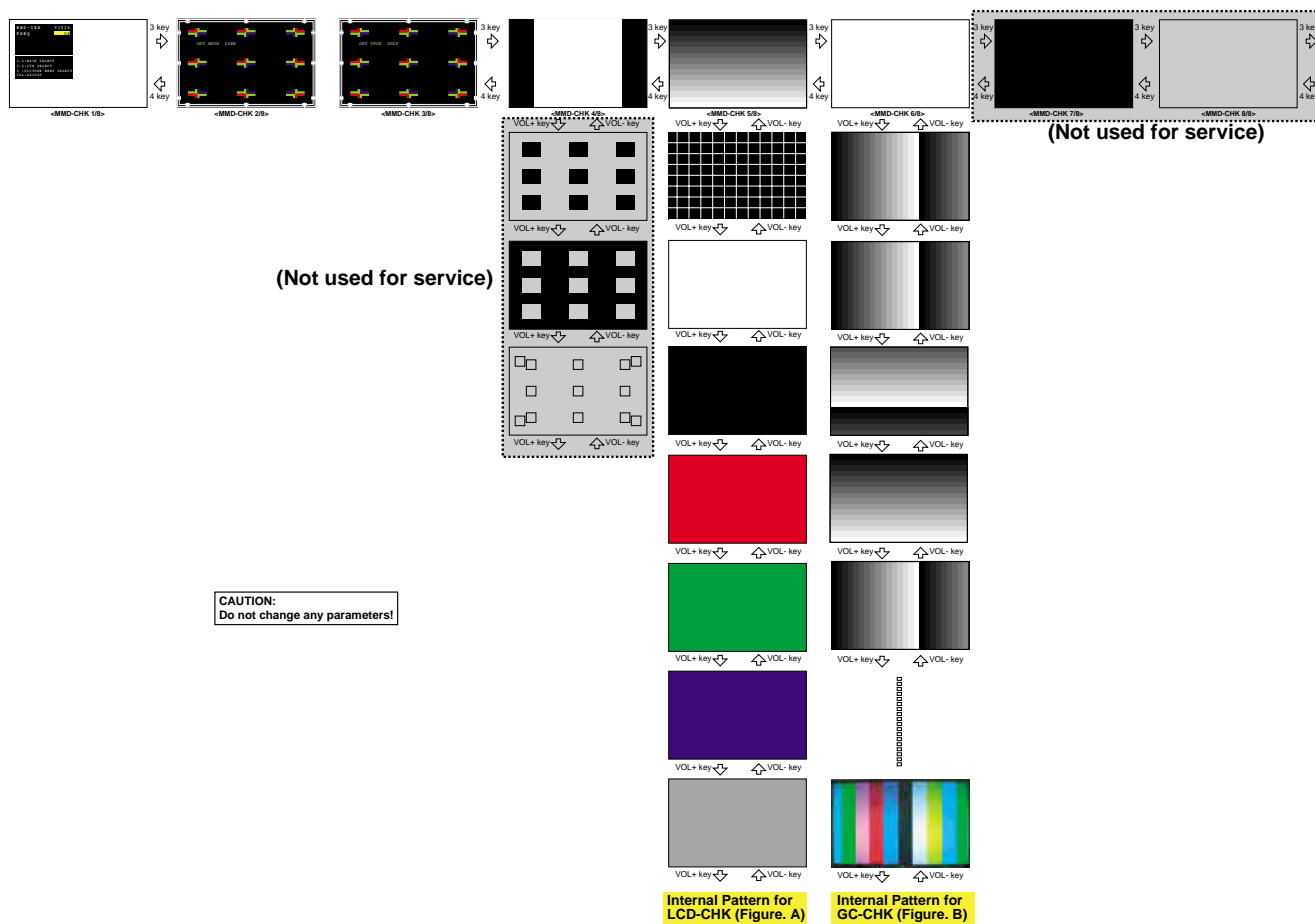
VOLUME DOWN button + RECALL key (3 times)
(in power on condition)



SERVICE	Peaks	SOFT	0.480
ADJUST	Peaks	EEP	0.16
WB-ADJ	LSI	DATA	0.00.5b
OPTION	GenX	SOFT	0.15.60
RM-SET	GenX	EEP	0.00.00
SRV-TOOL	GenX	ROMCOR	0.00.00
MMD-CHK	GCSP	EEP	20
	PPGA		0.3a
	FACTDATA		12FF-FFFF

<Main Menu>

2 key



7 Disassembly and Assembly Instructions

7.1. Cabinet Section

DISASSEMBLY METHOD OF CABINET SECTION

Cabinet section contains following removal procedures:

HOW TO REPLACE THE LAMP UNIT

- a. Removal of Rear Cover
- b. Removal of OPT/TV Unit
- c. Removal of Lamp Shield Case Ass'y with Fans
- d. Removal of Lamp Unit
- e. Removal of Lamp Fan

REMOVAL OF THE OPT/TV UNIT

REMOVAL OF THE RF AMP POWER SUPPLY P.C.B.

REMOVAL OF THE FRONT FAN AND THE REAR FAN

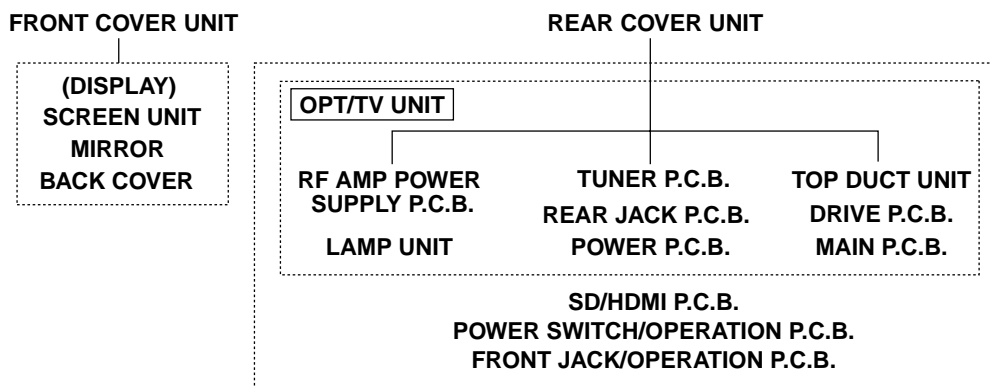
REMOVAL OF THE TUNER P.C.B., THE REAR JACK P.C.B. AND THE POWER P.C.B.

REMOVAL OF THE FRONT COVER UNIT AND THE DISPLAY

REMOVAL OF THE SCREEN UNIT FROM THE DISPLAY

DISASSEMBLY FLOWCHART

This flow chart indicates the disassembly steps of the cabinet parts and the P.C.Boards in order to gain access to item (s) to be serviced. When reassembling, perform the step (s) in the reverse order. Bend, route and dress the wires as they were originally.



Note:

The optical parts will be exposed to the dust in the air when the Top Duct Unit is removed. Therefore, it is strongly recommend to remove the Top Duct Unit only in a clean room.

Note :

- a. Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.
- b. When reinstalling, ensure that the connectors are connected firmly and electrical components have not been damaged.
- c. Do not supply power to the unit during disassembly and reassembly.

HOW TO REPLACE THE LAMP UNIT

Note:

Lamp debris may be noticed in the lamp compartment area after the rear cover is removed. If present, follow the notes in the disassembly procedure. If not, disregard these notes.

LAMP CAUTION:

The Lamp Unit becomes very hot during operation. When replacing the Lamp Unit, wait until it has cooled off (1 hour or more).

a. Removal of Rear Cover

1. Remove the Rear Cover by removing the 12 screws then pinching the 3 latch tabs.

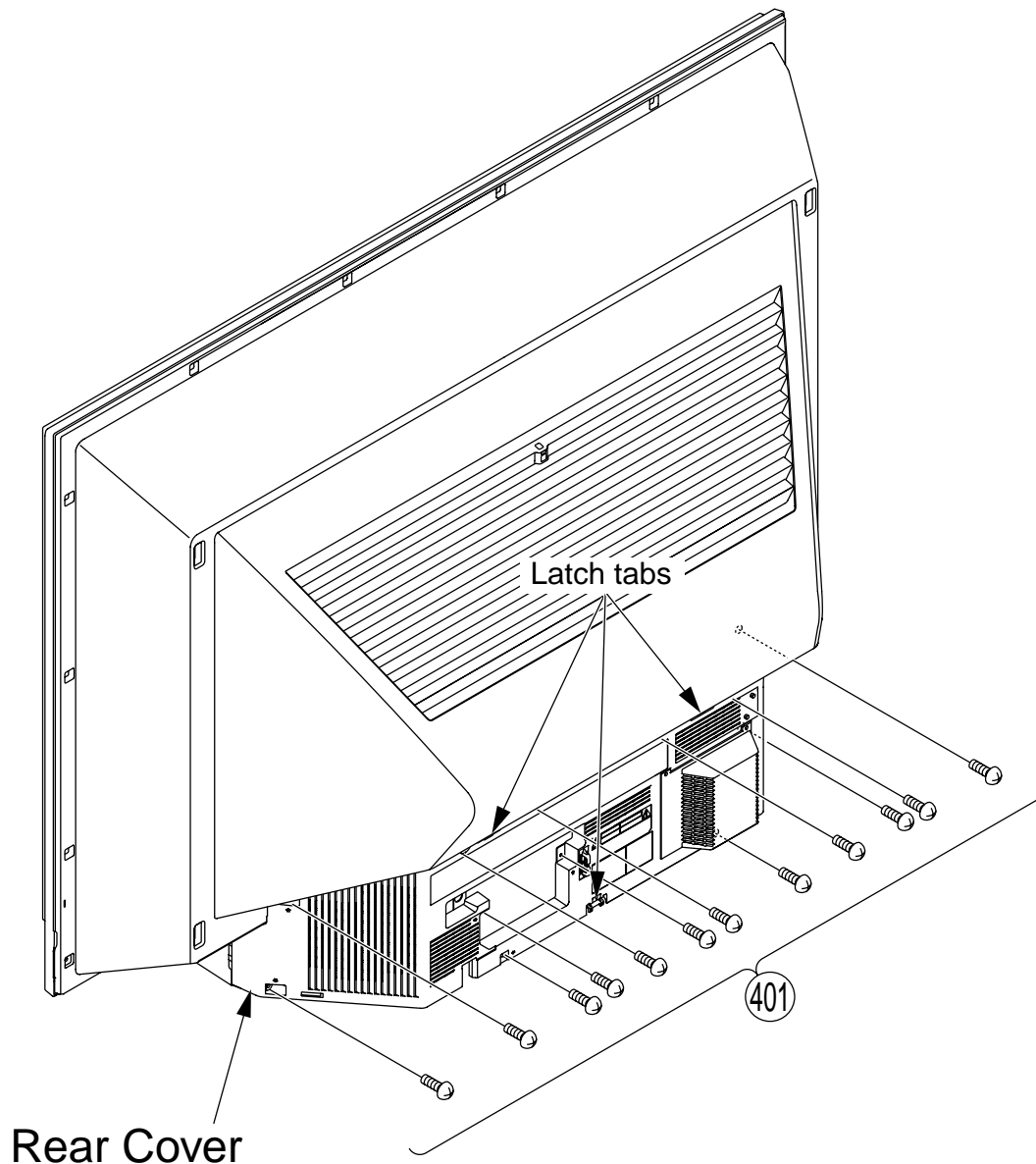


Fig. D1-1

Before trying to remove the OPT/TV Unit, check the area under the Lamp shown by the arrow in the following picture.

Note: If debris is present, clean the debris with a vacuum cleaner.

- (1) Spread blanket or drop cloth (or similar material) on the floor to collect the debris that may fall during the removal of the OPT/TV Unit and the Lamp Unit.
- (2) Vacuum the debris thoroughly.

b. Removal of OPT/TV Unit

1. Remove the right Support Shield by releasing the Locking Tab.
2. 1) Remove the 4 screws.
- 2) Disconnect Connectors CN3502 (Ope), CN4501 (Speaker), CN5503 (SD), CN6003 (Power SW) and CN8201 (HDMI).

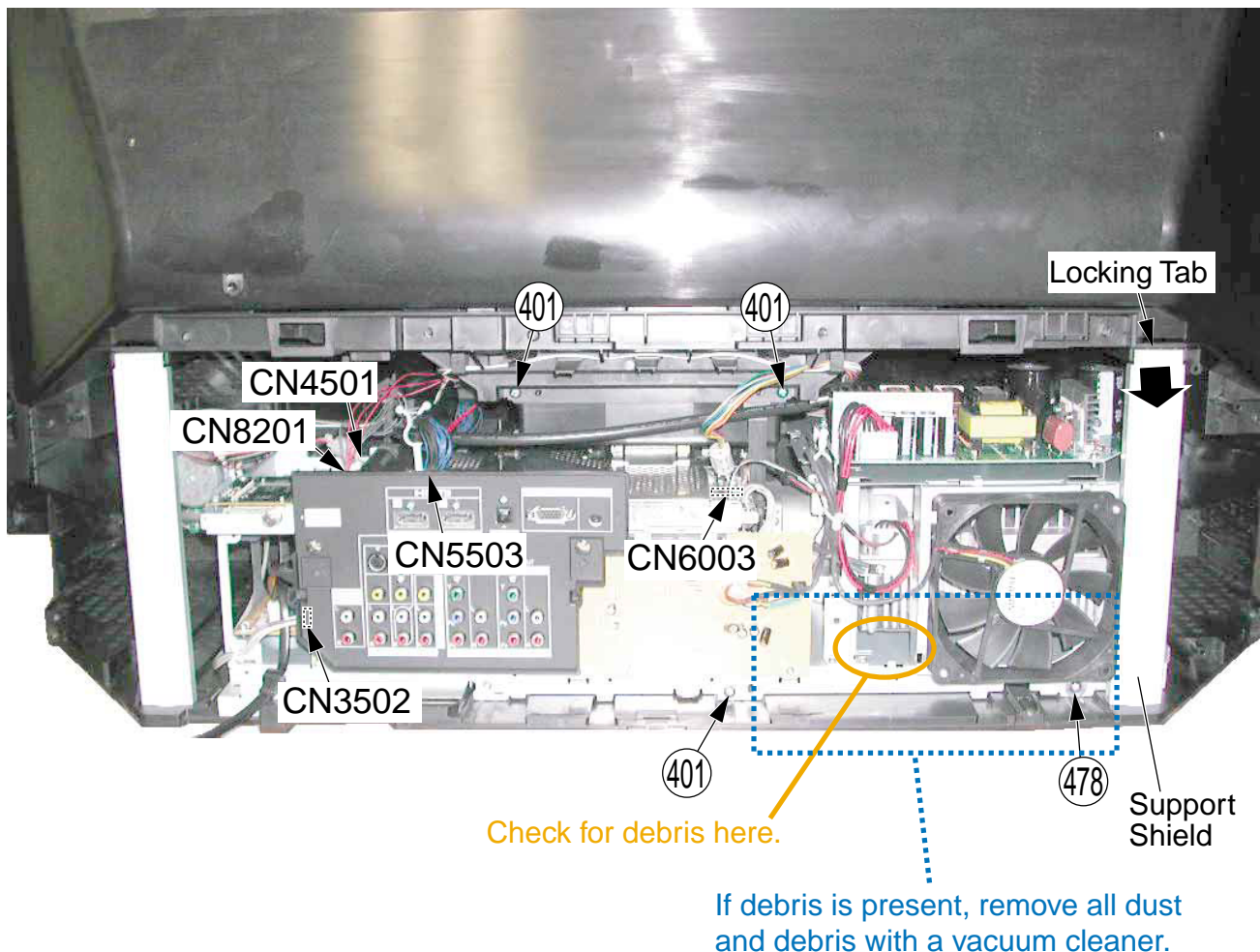


Fig. D1-2

Replacement Note of OPT/TV Unit:

After replacing the OPT/TV Unit, be sure to perform "ADJUSTMENT of OPT/TV Unit." Refer to "WHEN INSTALLING THE OPT/TV UNIT INTO THE UNIT AT THE USER'S LOCATION:."

3) Pull out the OPT/TV Unit.

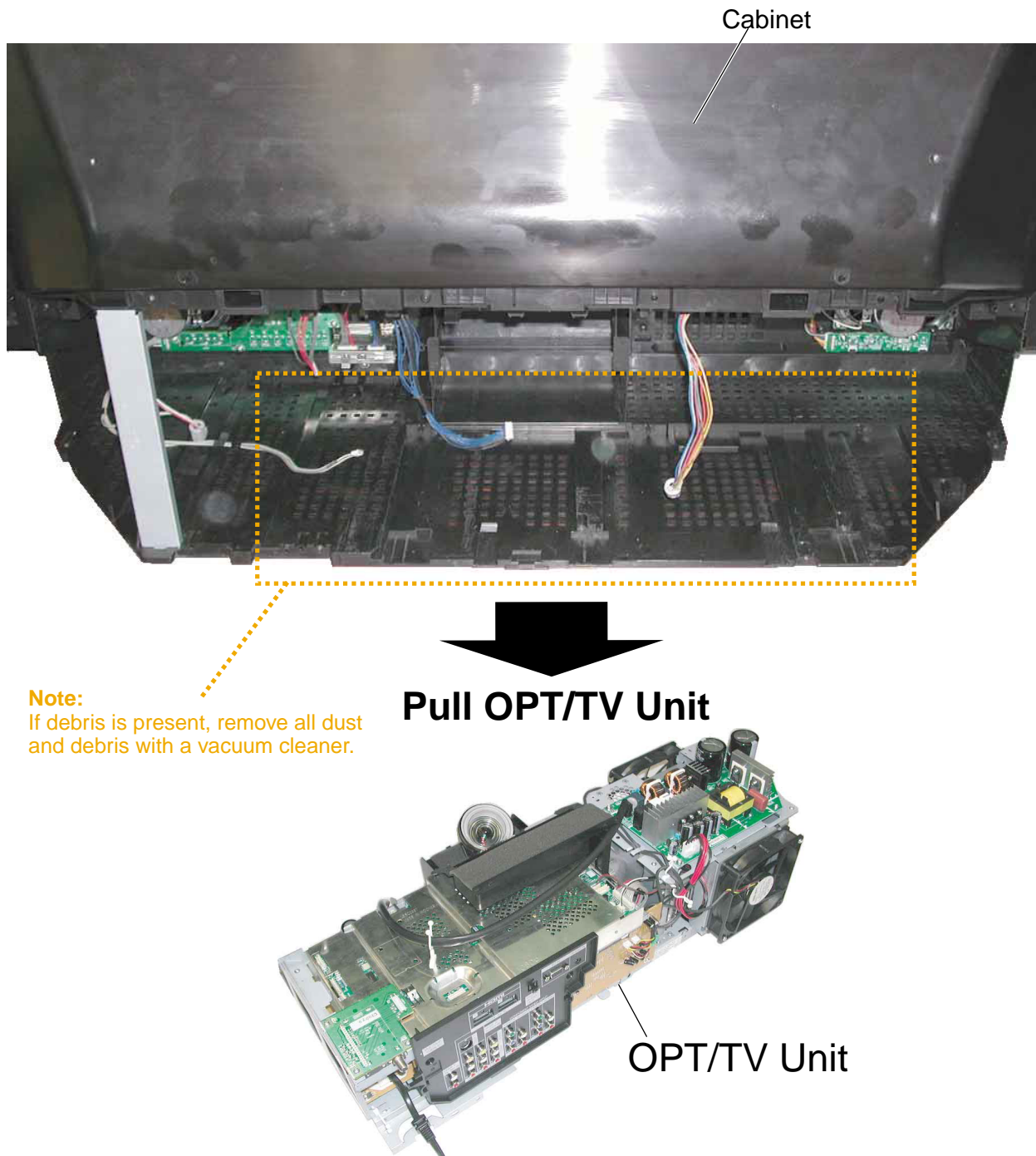


Fig. D1-3

c. Removal of Lamp Shield Case Ass'y with Fans

1. Remove the Thermal Fuse by removing the screw, and disconnect Connector CN1102.
2. Disconnect Connectors CN1, CN151, CN2751, CN2752, CN2753, CN6005 and release from the clampers.

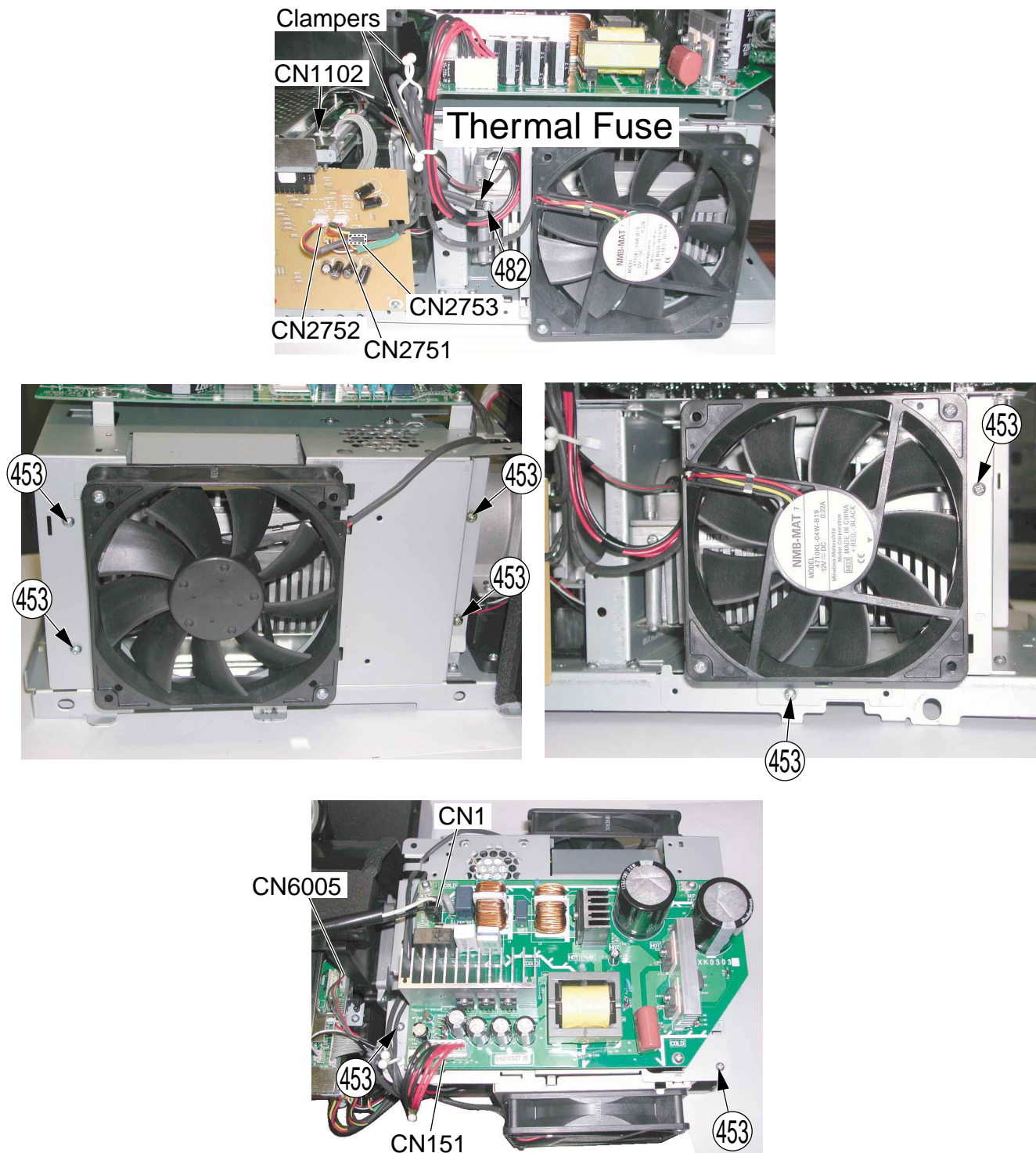


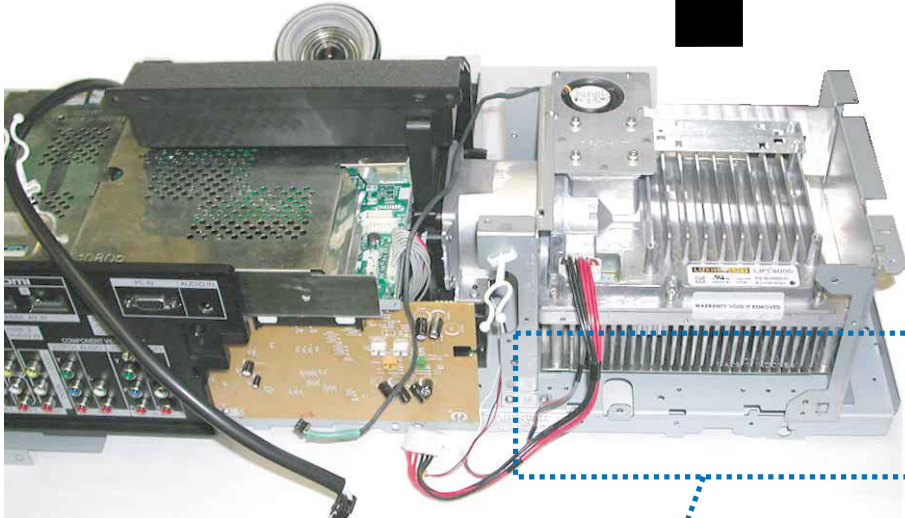
Fig. D1-4

3. Remove the Lamp Shield Case Ass'y with Fans by removing the 8 screws.

Lamp Shield Case Ass'y with Fans



**Lift up Lamp Shield
Case Ass'y with Fans**



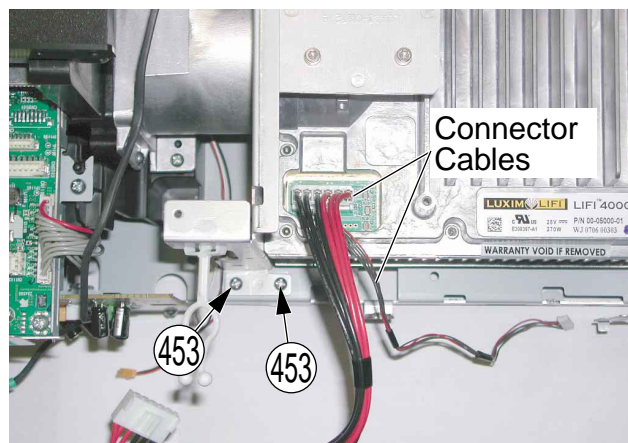
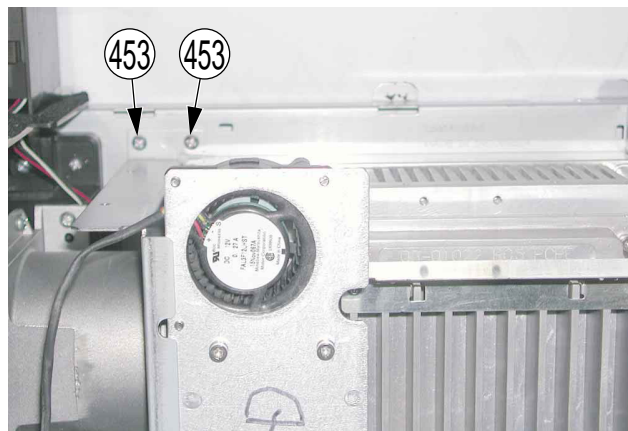
Note:

Clean the surface of the plate under the Lamp
with a vacuum cleaner.

Fig. D1-5

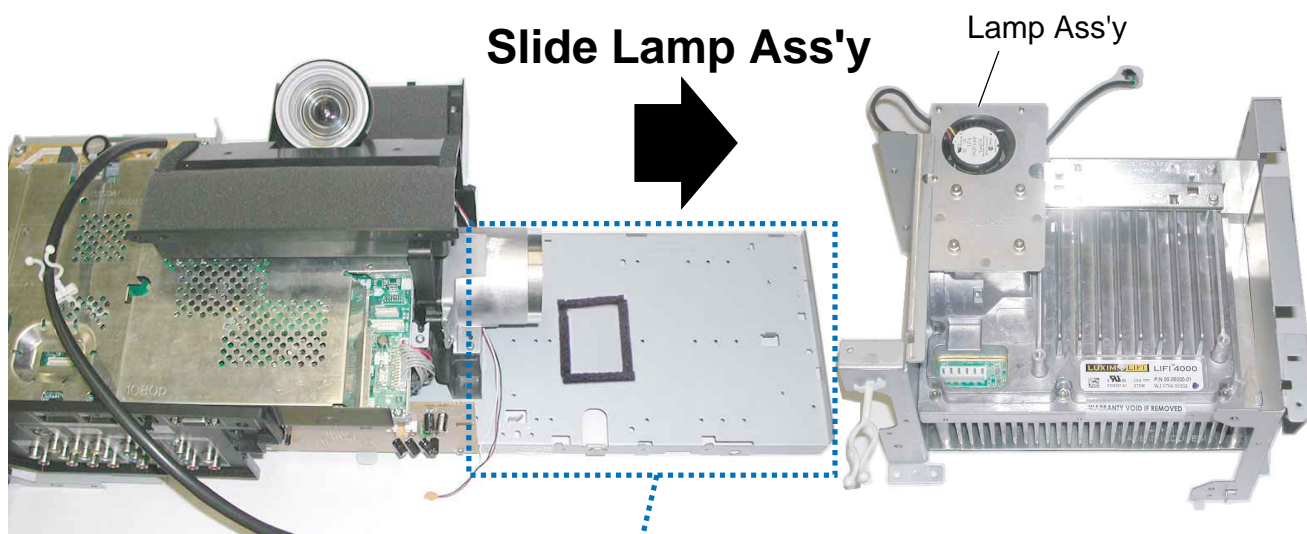
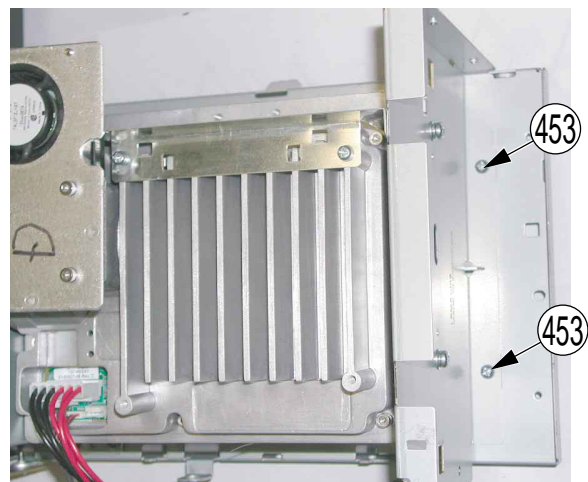
d. Removal of Lamp Unit

1. Disconnect two connector cables from the Lamp Ass'y.
2. Remove the Lamp Ass'y by removing the 6 screws.



LAMP CAUTION:

The Lamp Unit becomes very hot during operation. When replacing the Lamp Unit, wait until it has cooled off (1 hour or more).

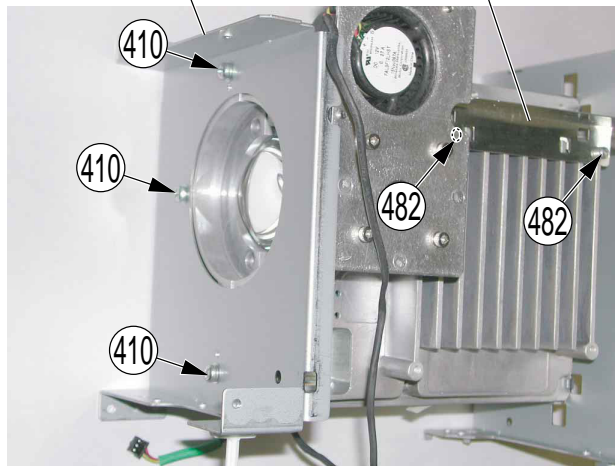


Note:
Clean the surface of the plate with a vacuum cleaner, after removing the Lamp Unit.

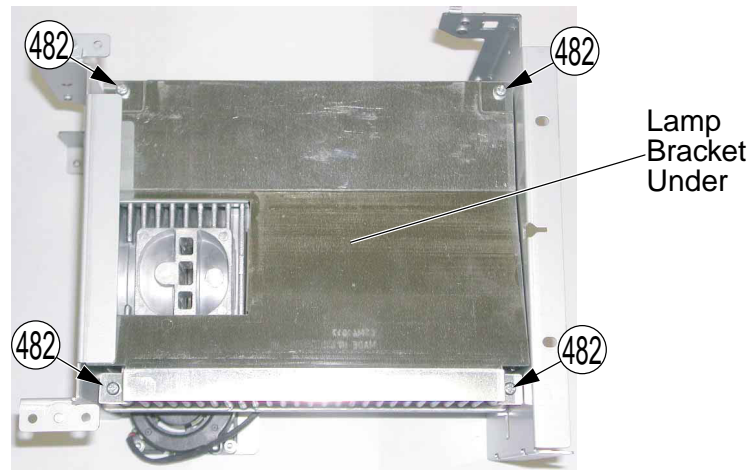
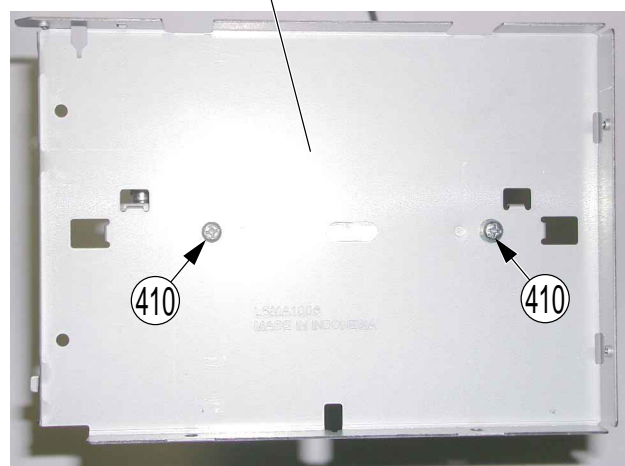
Fig. D1-6

- Remove the 4 plates (Lamp Stay Plate, Lamp Bracket Top, Lamp Support Shield and Lamp Bracket Under) by removing the 11 screws.

Lamp Stay Plate



Lamp Support Shield



<Lamp Unit>

The Lamp Unit includes the Lamp Fan.



<Bottom View>



Fig. D1-7

e. Removal of Lamp Fan

1. Remove the Lamp Fan from the Lamp Ass'y by removing the 7 screws using the Hex Wrench (2.5 mm).

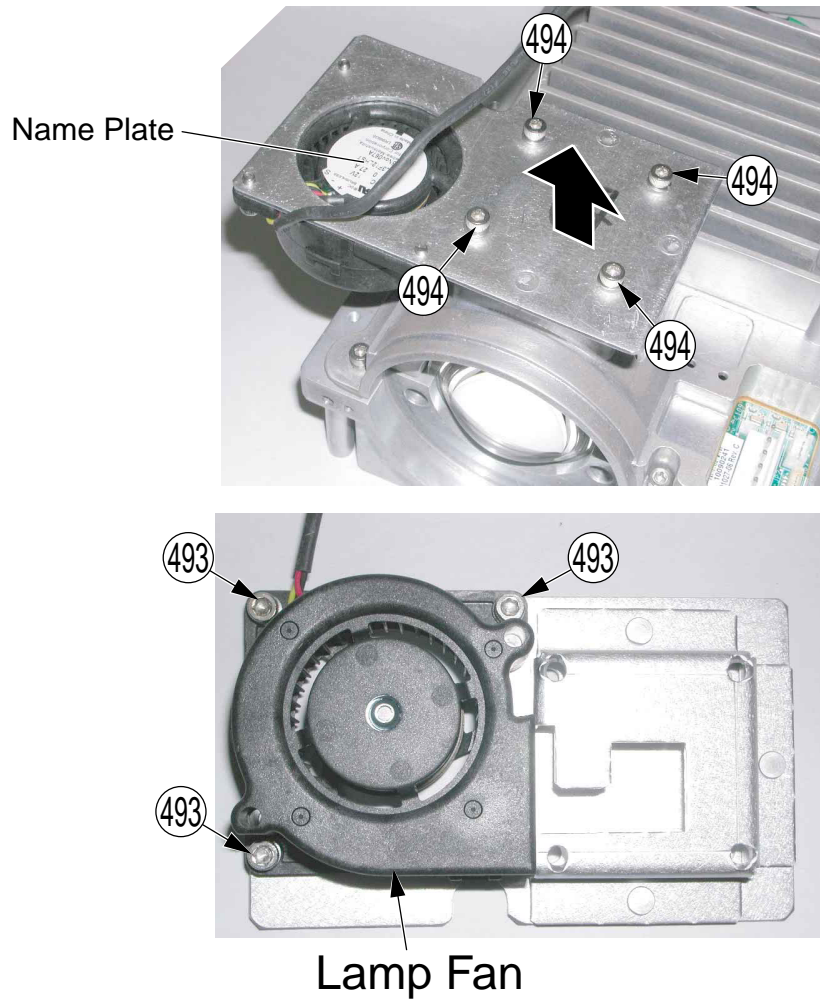


Fig. D1-8

Reassembly Note for Lamp Shield Case Ass'y:

Before installing the Lamp Shield Case Ass'y with Fans, wire the Lamp Fan Cable and the Front Fan Cable as shown.

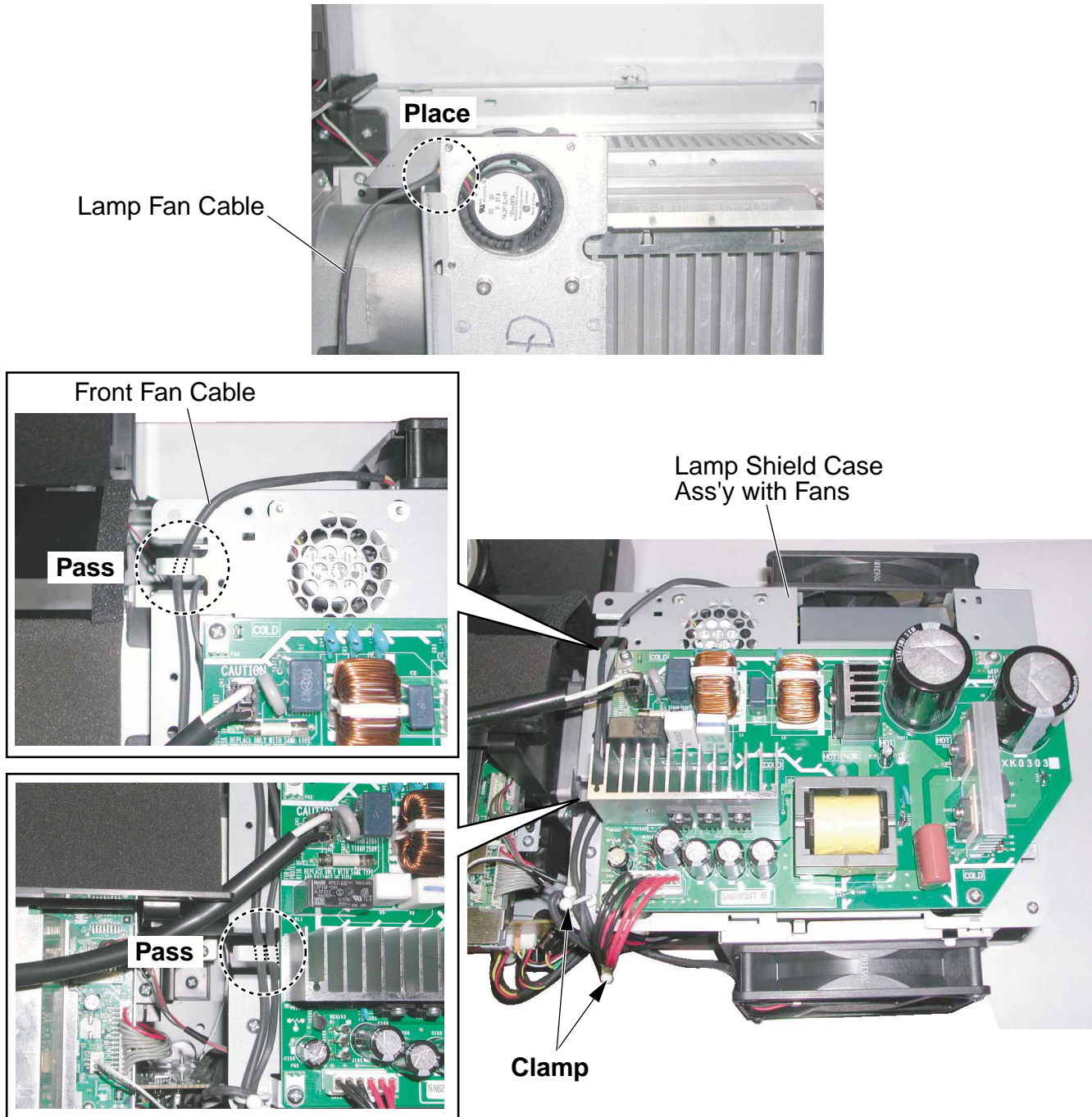


Fig. D1-9

REMOVAL OF THE OPT/TV UNIT

1. Remove the right Support Shield by releasing the Locking Tab.
2. 1) Remove the 4 screws.
2) Disconnect Connectors CN3502 (Ope), CN4501 (Speaker), CN5503 (SD), CN6003 (Power SW) and CN8201 (HDMI).

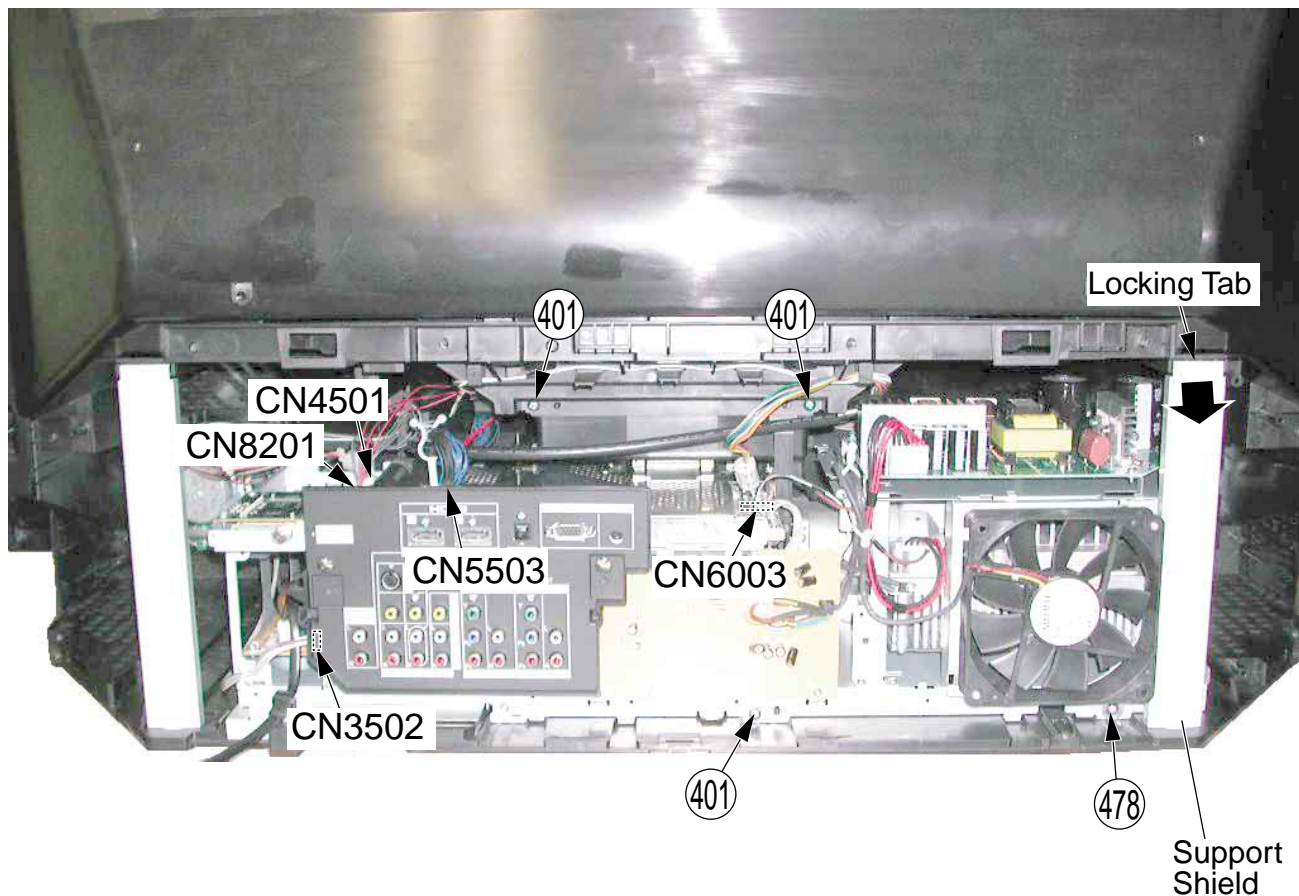


Fig. D2-1

3) Pull out the OPT/TV Unit.

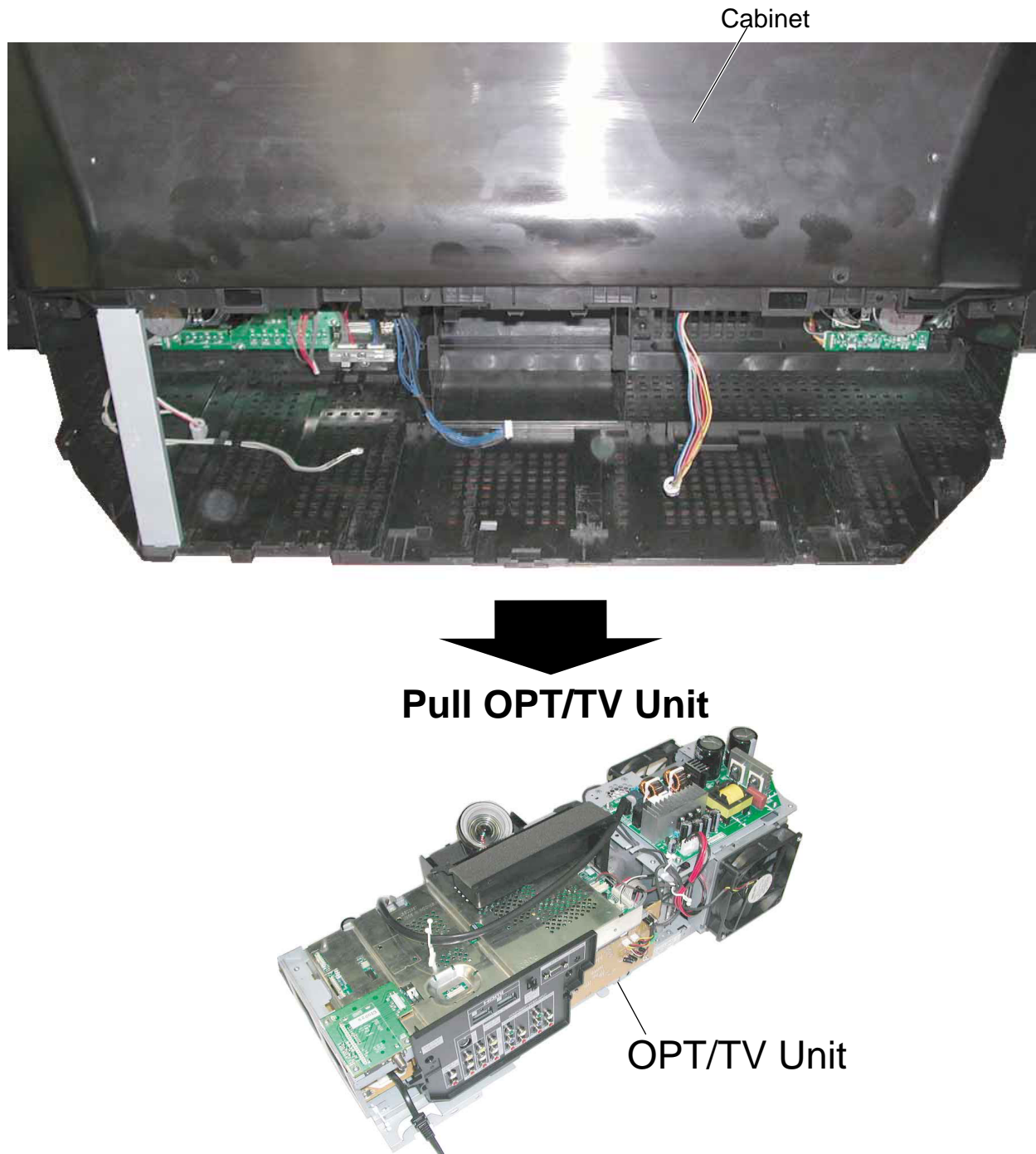


Fig. D2-2

REMOVAL OF THE RF AMP POWER SUPPLY P.C.B.

1. Remove the OPT/TV Unit. Refer to Steps 1~2 in "REMOVAL OF THE OPT/TV UNIT."
2. 1) Disconnect Connectors CN151, CN1 on the RF AMP Power Supply P.C.B.
2) Remove the RF AMP Power Supply P.C.B. by removing the 4 screws and the spacer.

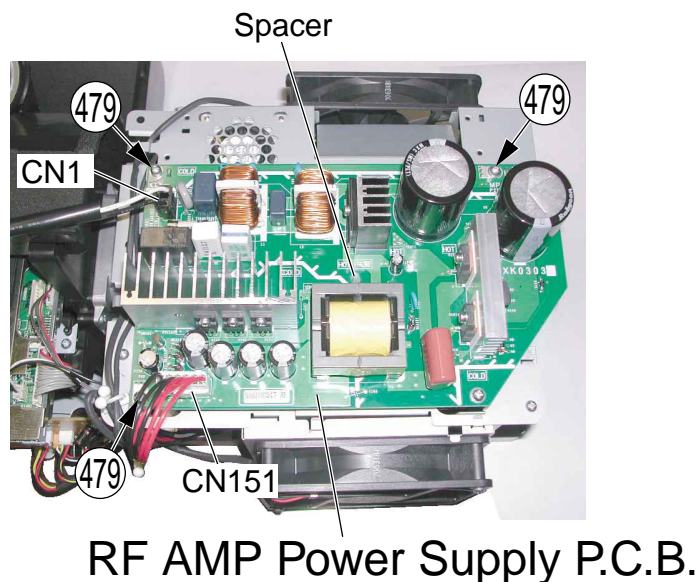


Fig. D3-1

REMOVAL OF THE FRONT FAN AND THE REAR FAN

1. Remove the OPT/TV Unit. Refer to Steps 1~2 in "REMOVAL OF THE OPT/TV UNIT."
2. Disconnect Connector CN2752 and remove the Rear Fan by removing the 2 screws.
3. Disconnect Connector CN2751 and remove the Front Fan by removing the 2 screws.

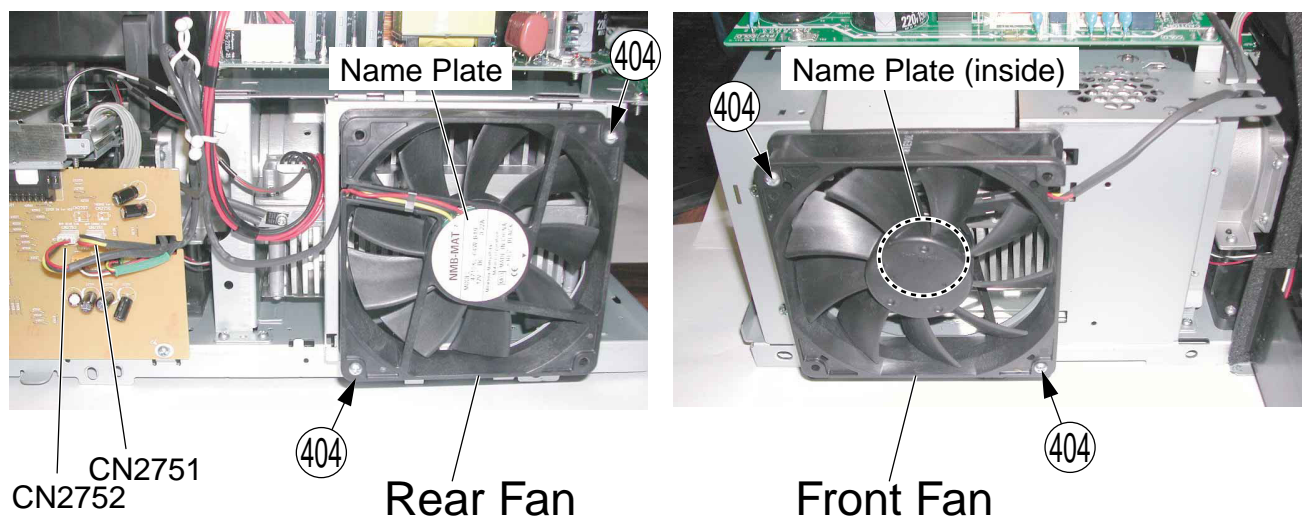


Fig. D3-2

REMOVAL OF THE TUNER P.C.B., THE REAR JACK P.C.B. AND THE POWER P.C.B.

1. Remove the OPT/TV Unit. Refer to Steps 1~2 in "REMOVAL OF THE OPT/TV UNIT."
2. Remove the Tuner P.C.B. by removing the 3 screws (CN8970 is disconnected).
3. 1) Remove the Rear Jack Holder by removing the 6 screws.
 2) Disconnect Connectors CN2751, CN2752, CN2753, CN2754.
 3) Disconnect Connector CN3501 and remove the Rear Jack P.C.B. by removing the 5 screws.

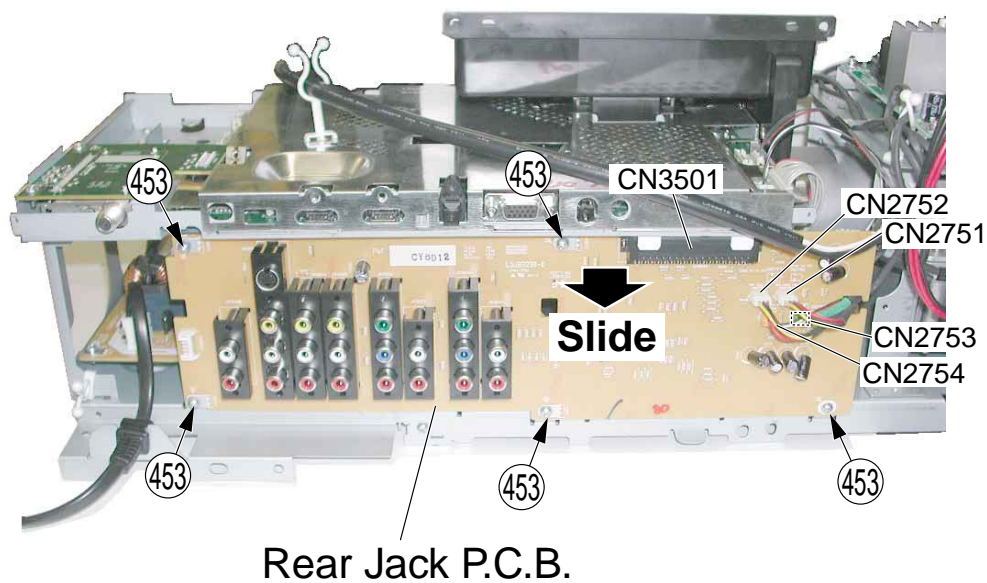
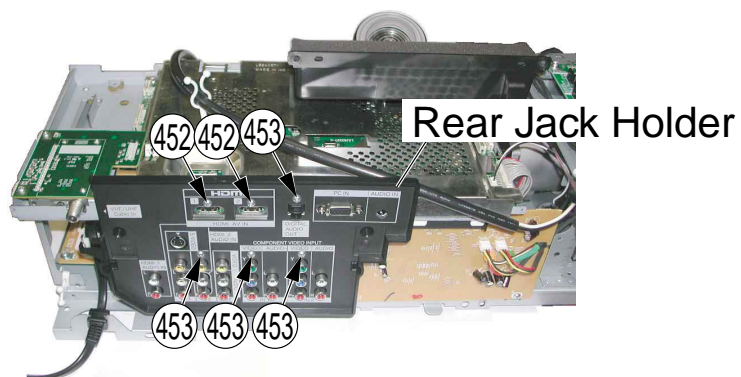
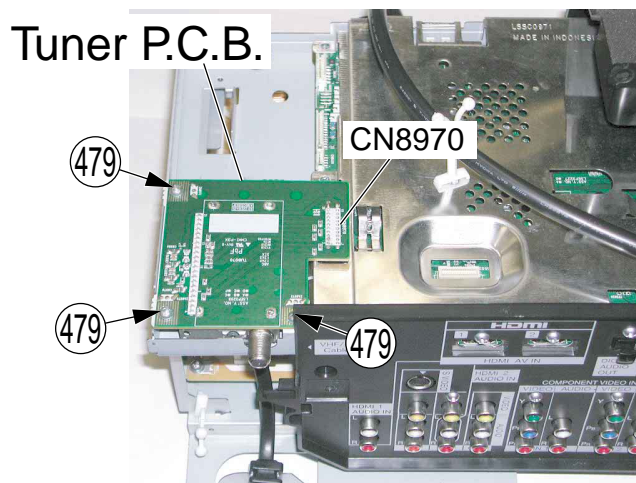
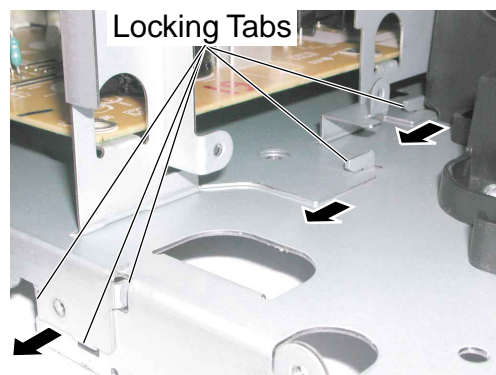
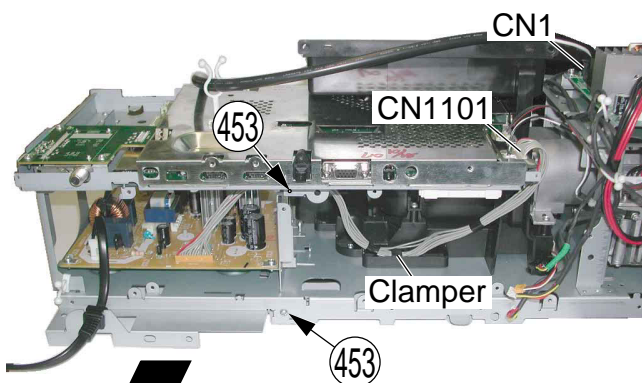
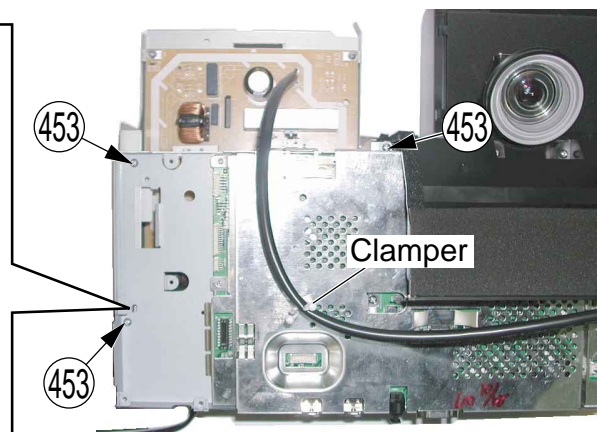
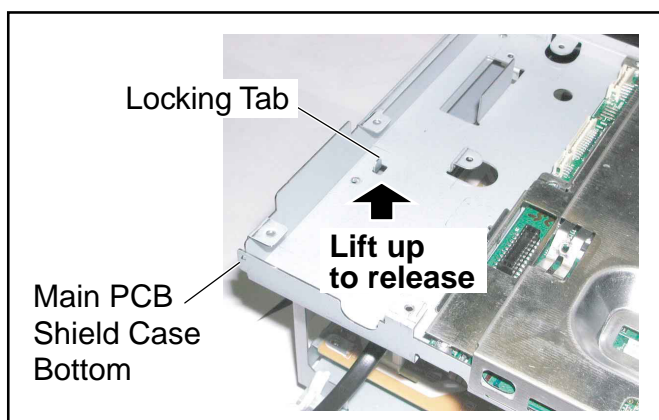


Fig. D4-1

4. 1) Disconnect Connectors CN1, CN1101 and remove the 5 screws.
- 2) Slide out the Power P.C.B. with the Shield together while releasing the 6 locking tabs.



**Slide Power P.C.B.
with Shield forward**

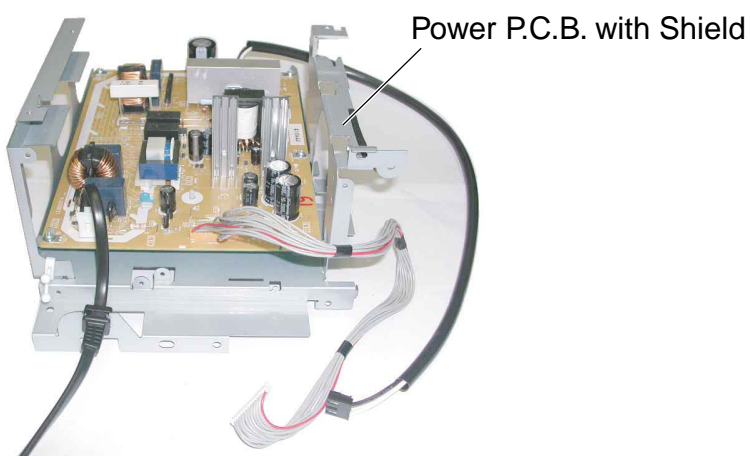


Fig. D4-2

3) Remove the Power P.C.B. by removing the 5 screws and the 2 spacers, then disconnect the AC Cord.

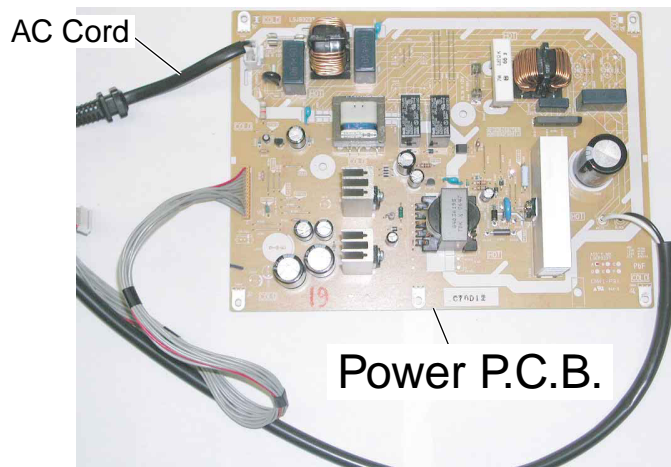
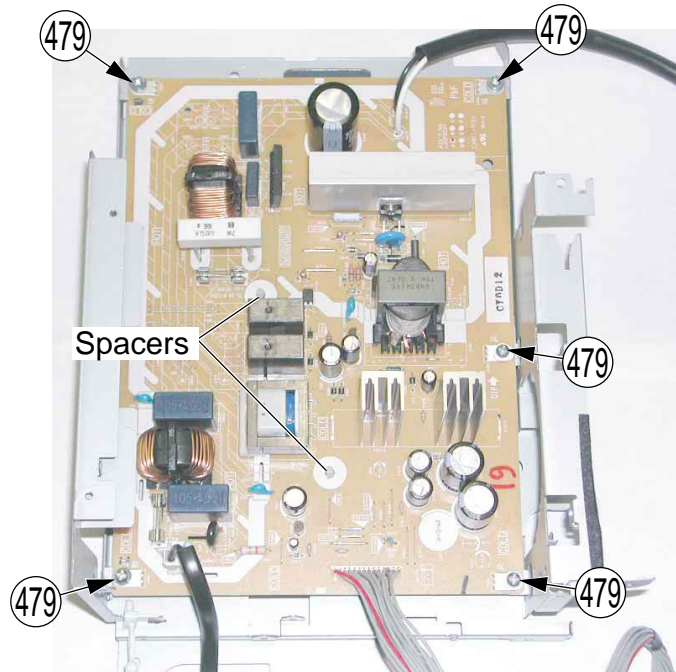


Fig. D4-3

REMOVAL OF THE FRONT COVER UNIT AND THE DISPLAY

1. Remove the Rear Cover. Refer to Step a in "HOW TO REPLACE THE LAMP UNIT."
2.
 - 1) Open the Front Door about 45 degrees and remove it by releasing the 2 Locking Tabs.
 - 2) Remove the 2 screws from the rear side, and the screw from the front side.
 - 3) Remove the Front Cover Unit by releasing the 4 Locking Tabs in that order.

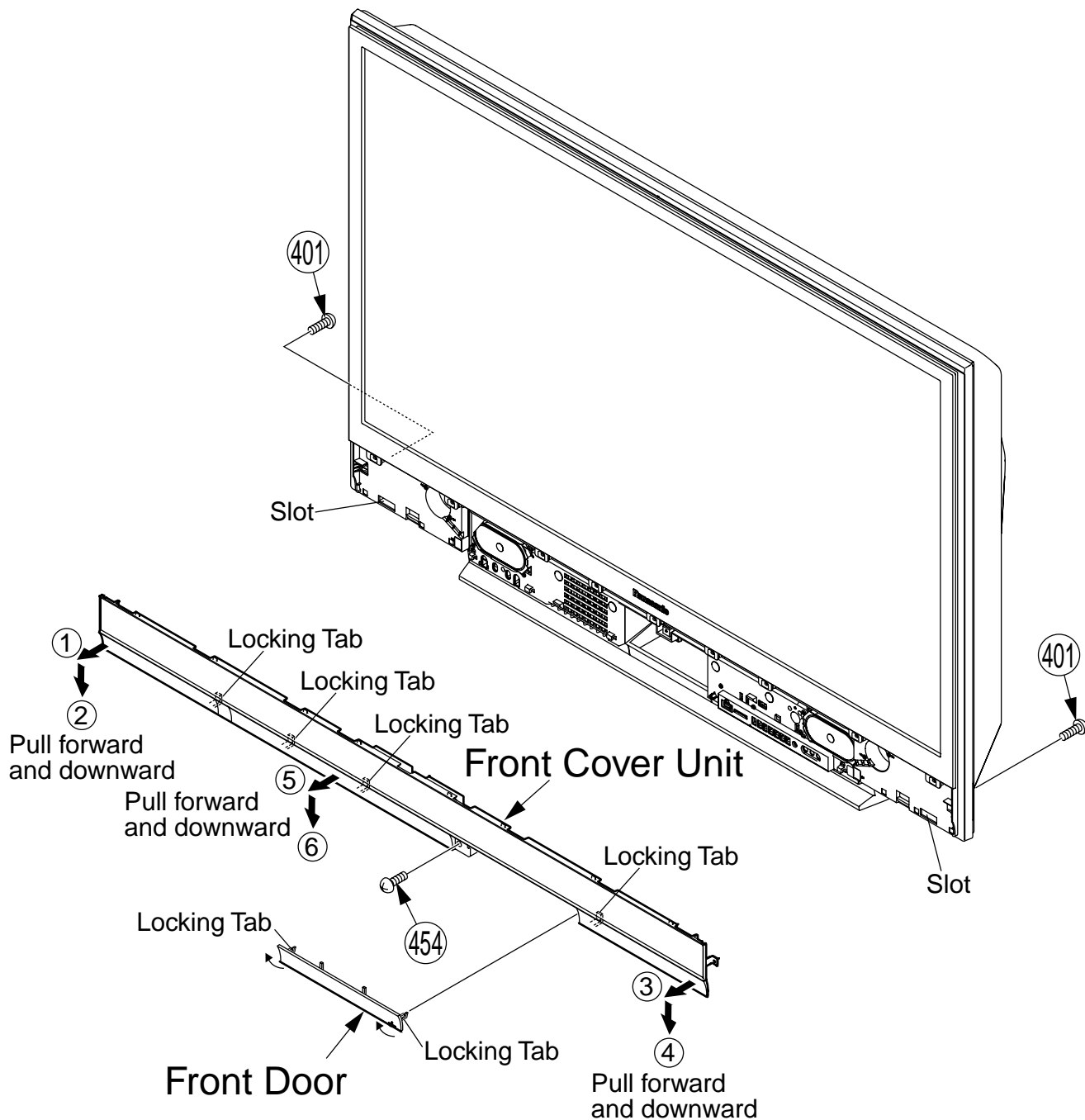
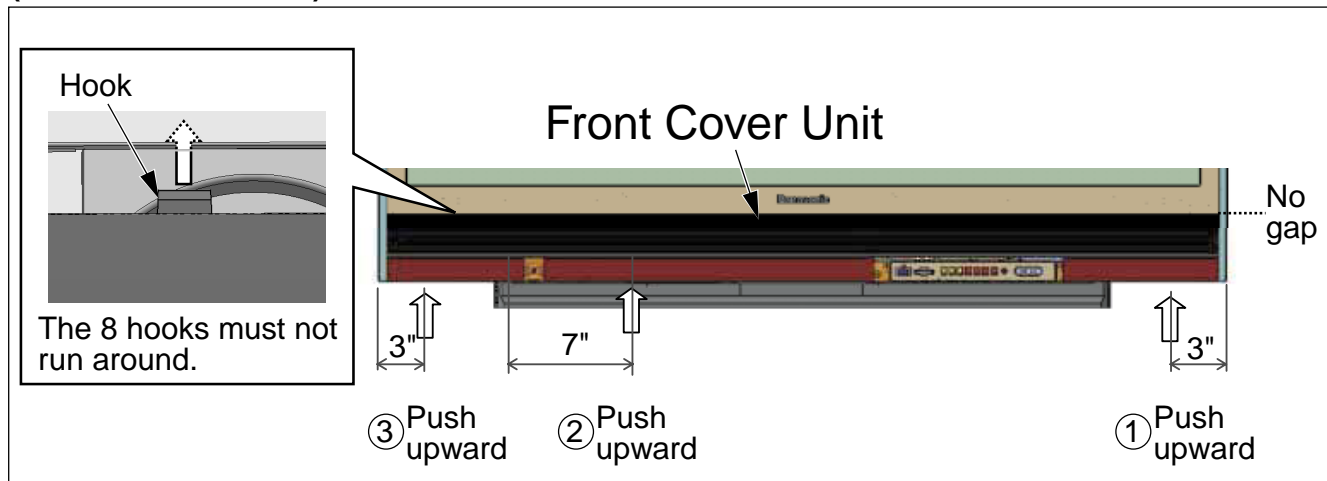


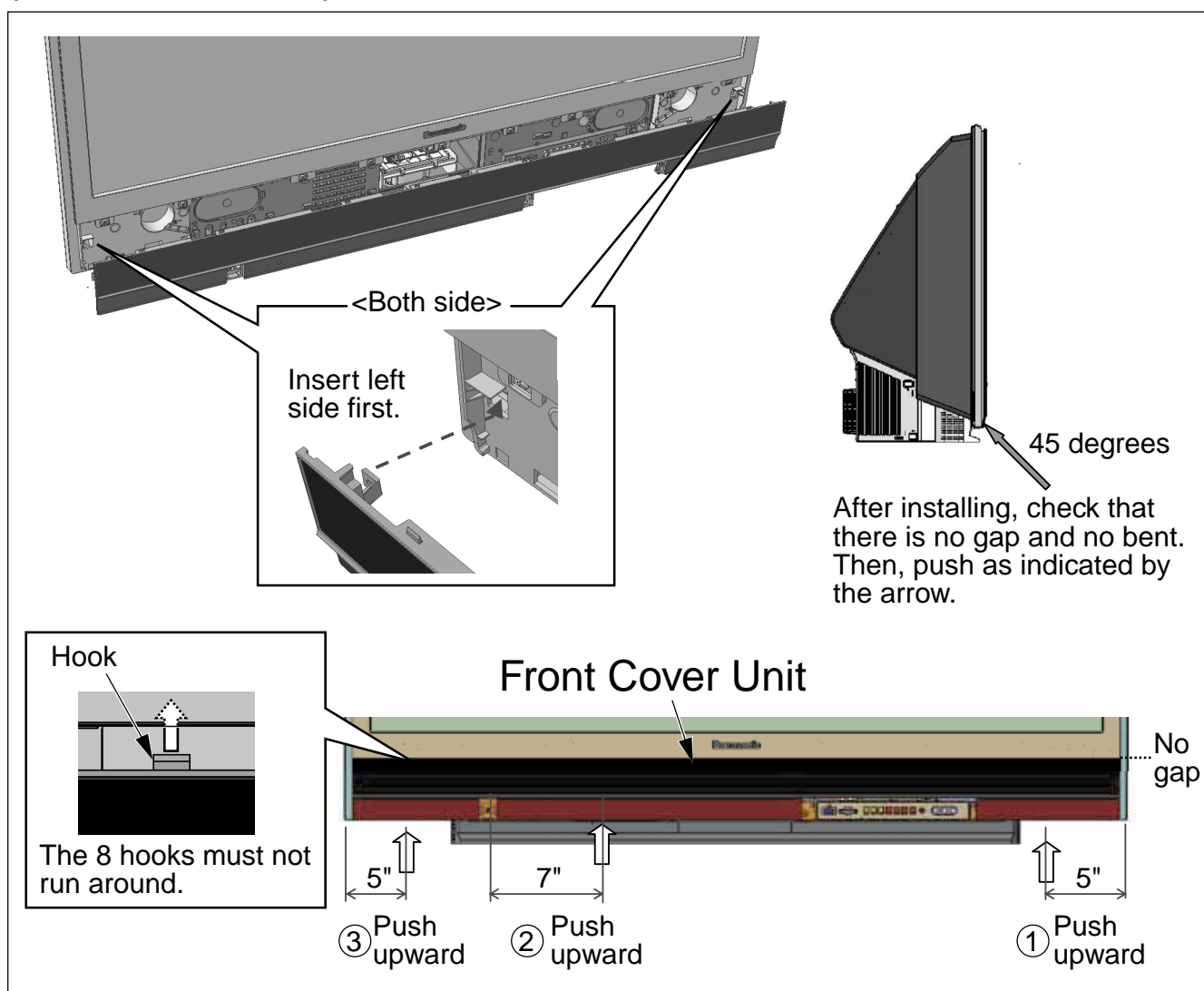
Fig. D5-1

Reassembly Note for Front Cover Unit:

(For 50 inch models)



(For 56/61 inch models)



3. 1) To remove Display, remove the 5 screws from front side.
2) Lift up the Display.

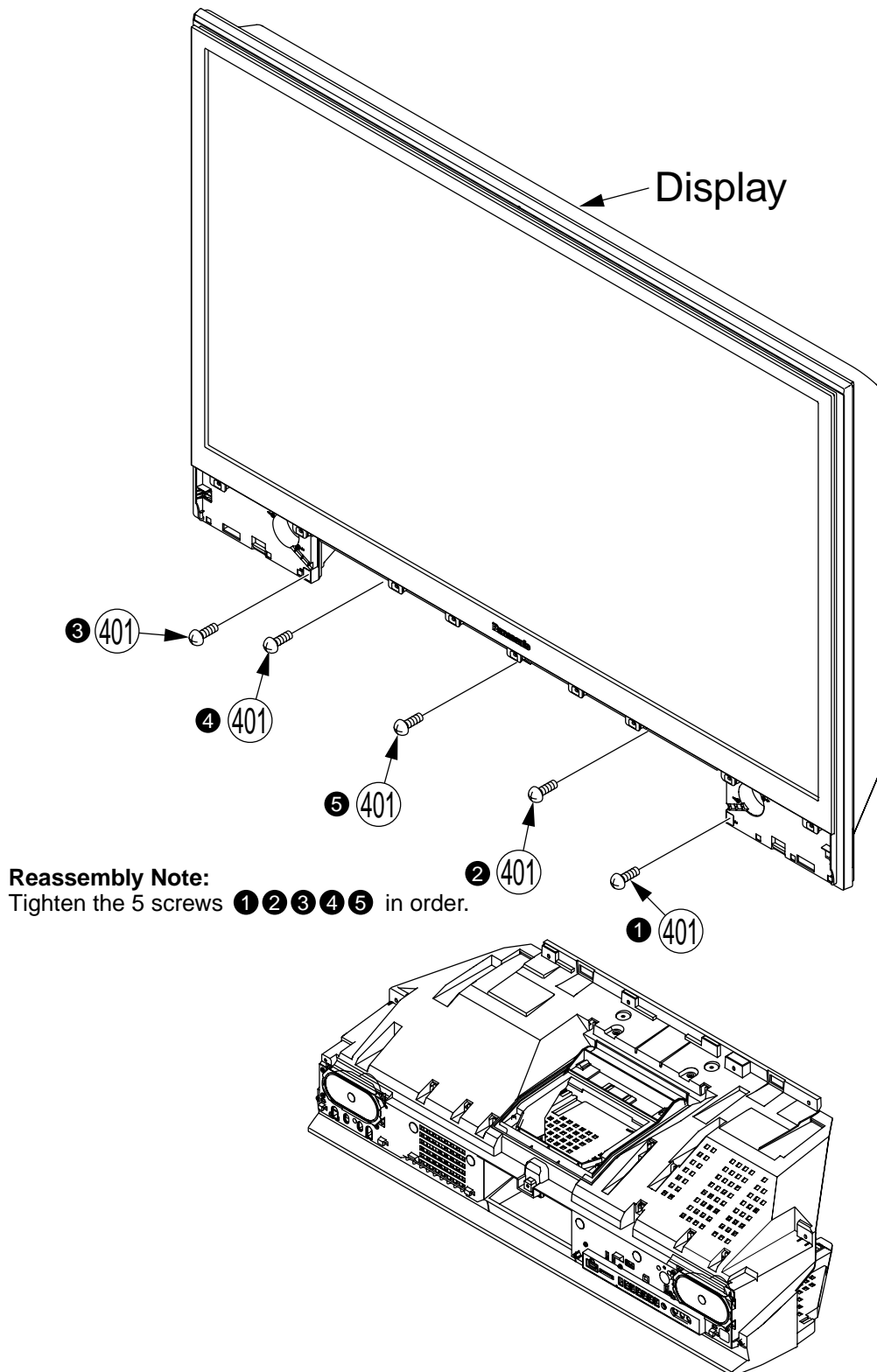


Fig. D5-2

REMOVAL OF THE SCREEN UNIT FROM THE DISPLAY

1. Remove the Display. Refer to Steps 1 ~ 3 in "REMOVAL OF THE DISPLAY."
2. Remove the Screen Unit by removing the 14 screws.

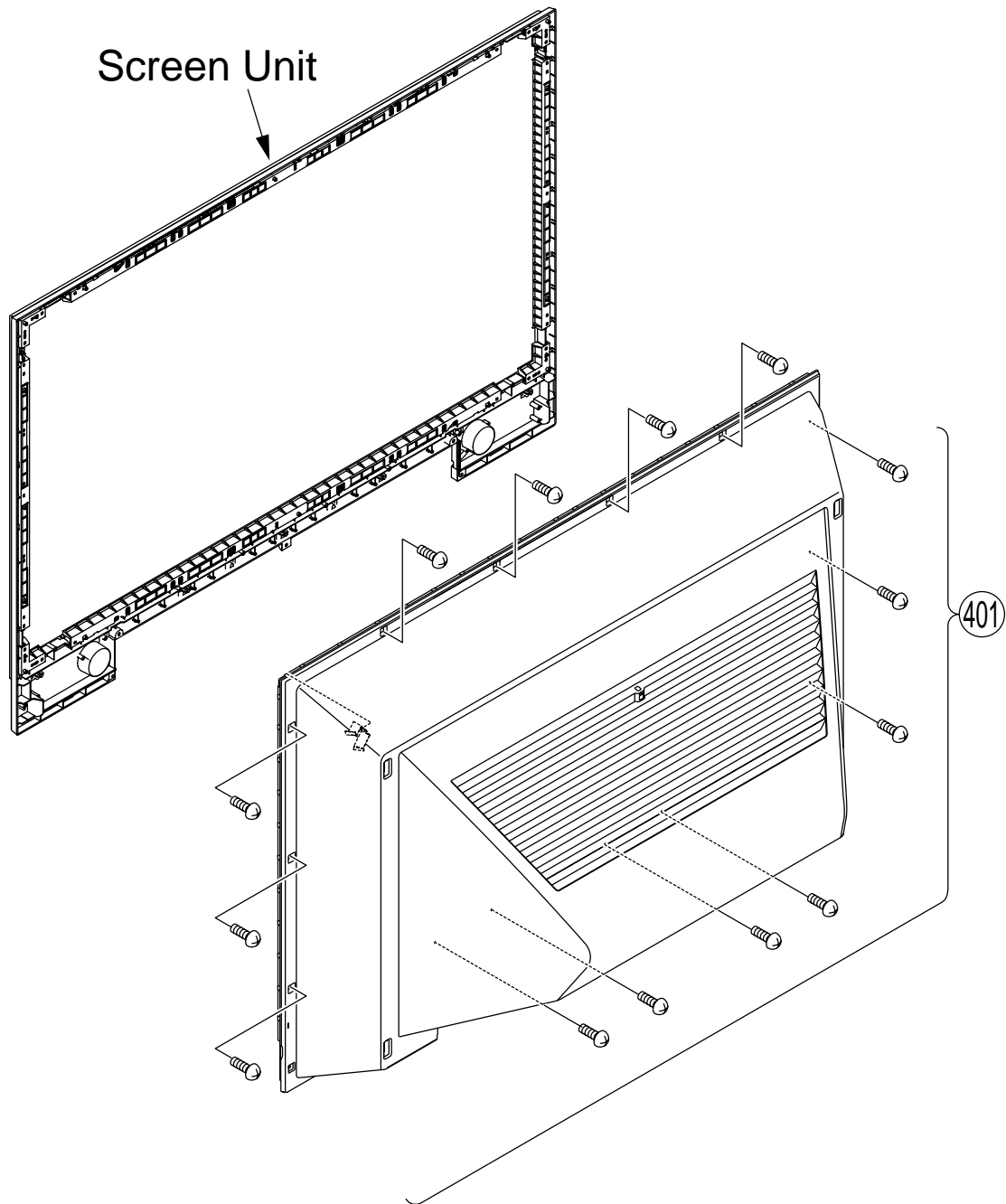


Fig. D6-1

3. 1) Remove the 4 Screen Support Corners, 2 Screen Support H Units and the 2 Screen Support V Units by removing the 22 screws.
2) Remove the Fresnel Lens and the Lenticular Screen.

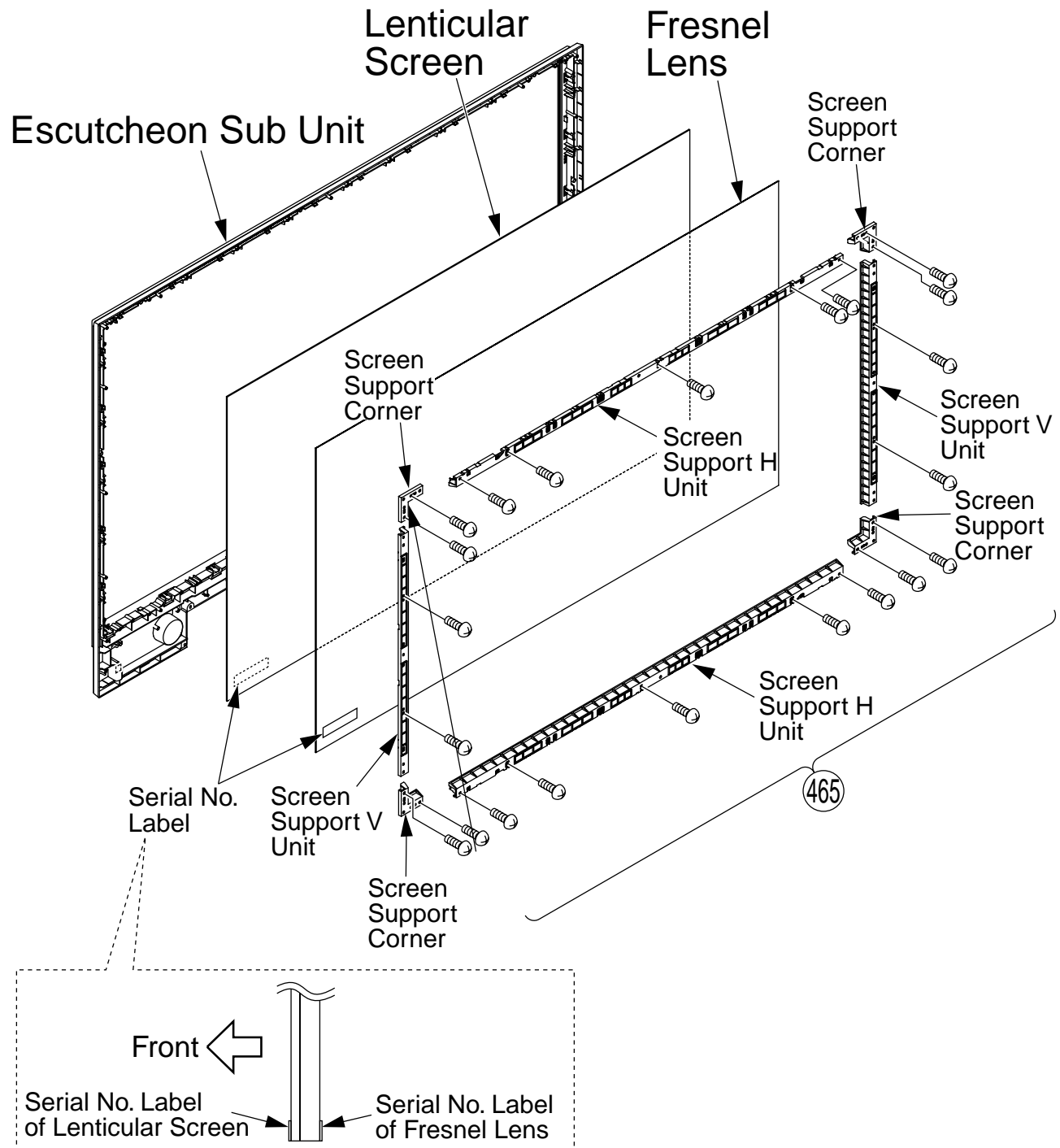


Fig. D6-2

Replacement Note for Screen Units:

When replacing the Fresnel Lens and the Lenticular Screen, it is imperative that dust, etc., does not adhere between the Fresnel Lens and the Lenticular Screen. Due to this risk, it is strongly recommended to replace the Screen Unit as a unit.

8 Measurements and Adjustments

8.1. Adjustment Procedures 1

WHEN INSTALLING THE OPT/TV UNIT INTO THE UNIT AT THE USER'S LOCATION:

The following ADJUSTMENT of the OPT/TV Unit must be performed.

a. Focus Adjustment

Note:

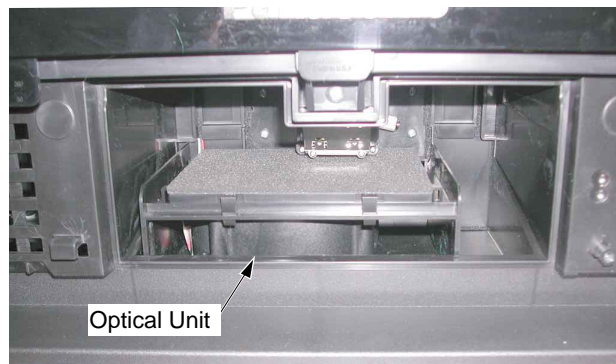
The Focus Adjustment is not normally necessary when reinstalling.

However, the Focus Adjustment should be performed when replacing the new OPT/TV Unit.

- b. Mechanical Picture Position Adjustment (Tilt)
c. Electrical Picture Position Adjustment (H/V)

Adjustment Preparation:

1. Install all parts except the Front Cover Unit and the Front Door.



<Front View>

Fig. M1-1

Note:

When the rear cover is disassembled, the screen can be moved back and forth, which could affect the video display vertical position. This could also cause the vertical adjust to be at or near its limit.

Only try the picture position adjustment with the rear cover assembled!

2. Turn the power on.

3. To enter Service Adjust Mode, hold the VOLUME DOWN button on the unit and press the RECALL key three times in power on condition.

SRVICE	Peaks SOFT	0.480
ADJUST	Peaks EEP	0.16
WB-ADJ	LSI DATA	0.00.5b
OPTION	GenX SOFT	0.15.60
RM-SET	GenX EEP	0.00.00
SRV-TOOL	GenX ROMCOR	0.00.00
MMD-CHK	FACTDATA	12FF-FFFF

<Main Menu>

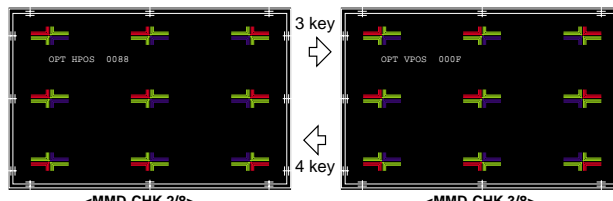
4. Press the 2 key to go to MMD-CHK 1/8 screen.

MMD-CHK	VIVID
FREQ	0.0

1,2:MAIN SELECT
3,4:SUB SELECT
9:PICTURE MENU SELECT
VOL:ADJUST

<MMD-CHK 1/8>

5. Press the 3 key to go to "Picture Position Screen."
6. Perform the adjustments.



<MMD-CHK 2/8>

<MMD-CHK 3/8>

(Picture Position
for Horizontal)

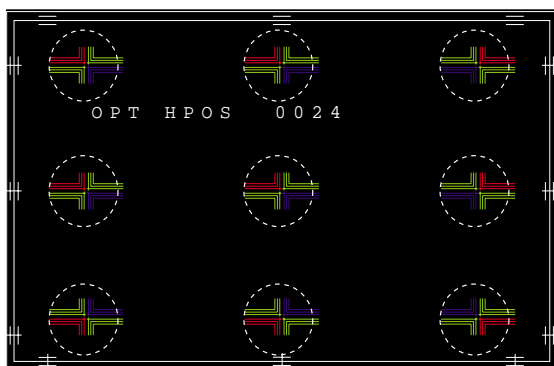
(Picture Position
for Vertical)

To release this mode:

- After changing the value of OPT HPOS/OPT VPOS, the adjustment data will be written to the EEPROM.
- Press 1 key to return to the Main Menu or turn off the power.
- Install the Front Cover Unit with the screws and the Front Door.

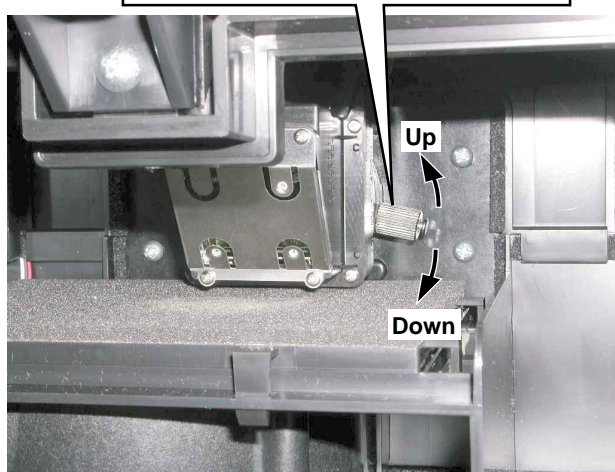
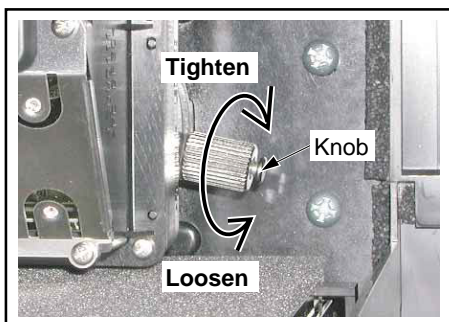
a. Focus Adjustment

- 1) Confirm that each of the pixels in the nine portions are clearly visible.



<MMD-CHK 2/8>

- 2) If not, loosen the Knob on the Projection Lens until the Knob can be moved.



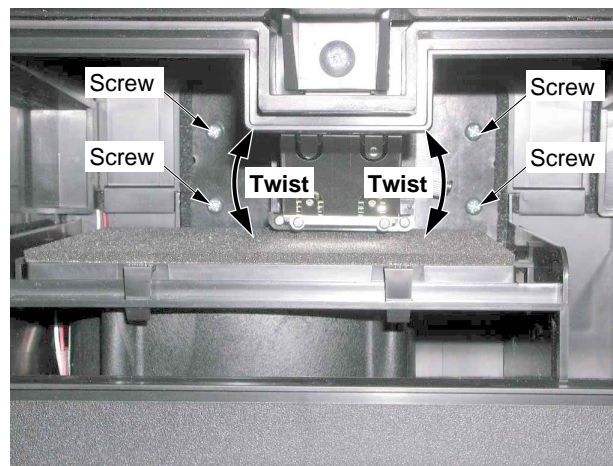
<Front View>

Fig. M1-6

- 3) Adjust the Knob by moving up or down so that each of the pixels in the nine portions is clearly visible to obtain the best focus.
- 4) Tighten the Knob.

b. Mechanical Picture Position Adjustment (Tilt)

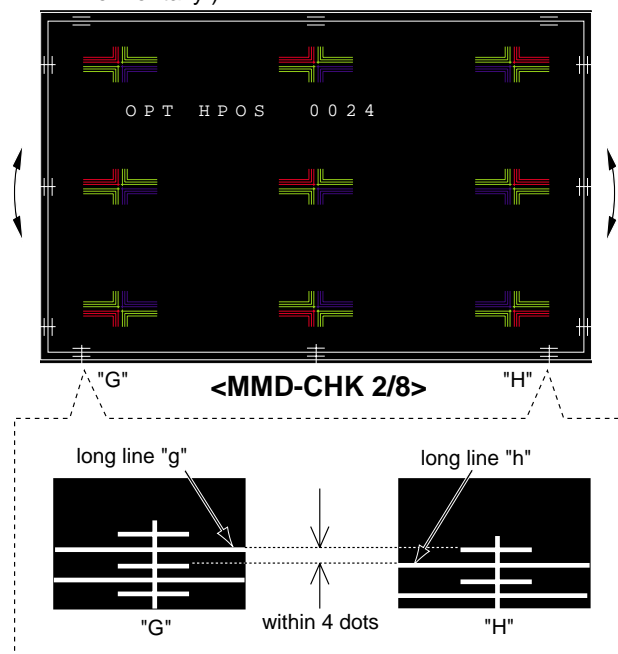
- 1) Loosen the 4 Screws on the Projection Unit.



<Front View>

Fig. M1-5

- 2) Adjust the Projection Lens by twisting so that the long line "g" and the long line "h" are within 4 dots. (The long line "g" and the long line "h" will be almost aligned horizontally.)



Note:

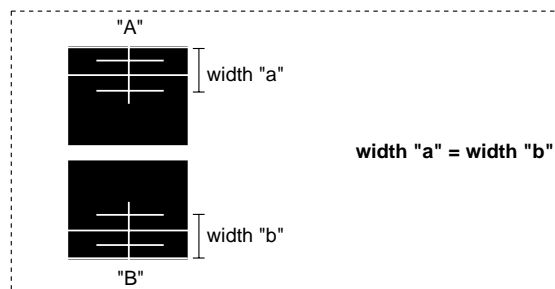
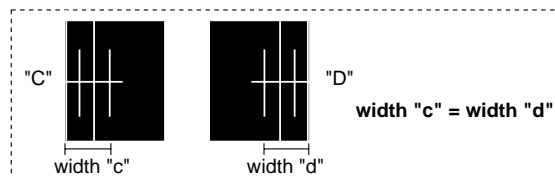
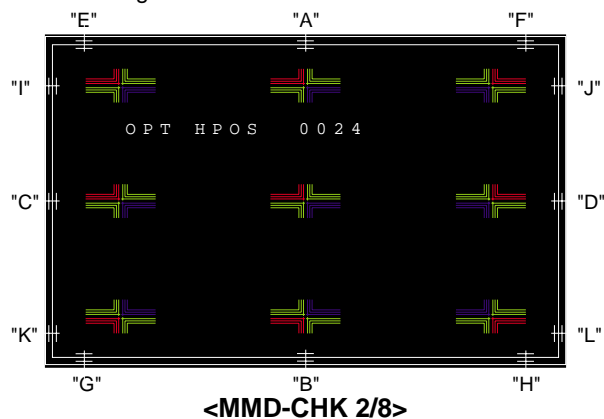
If the Projection Lens is twisted left, the Focus Screen twists left.

If the Projection Lens is twisted right, the Focus Screen twists right.

- 3) Tighten the 4 Screws while fixing the Projection Lens.

c. Electrical Picture Position Adjustment (H/V)

- 1) Adjust OPT HPOS so that "C" is symmetrical to "D." by pressing the VOLUME UP/DOWN key on the remote to change the value.
- 2) Press the CH UP/DOWN key on the remote to return to the OTHER menu.
- 3) Select OPT VPOS by pressing CH UP/DOWN key on the remote.
- 4) Adjust OPT VPOS so that "A" is symmetrical to "B" by pressing the VOLUME UP/DOWN key on the remote to change the value.



- 5) Confirm that all "A", "B", "C", "D", "E", "F", "G", "H", "I", "J", "K", "L" are each almost symmetrical.
- 6) If not, adjust the "OPT HPOS" and "OPT VPOS" (repeat steps 1-6) until the picture is in the correct position.
- 7) After changing the value, the adjustment data will be written to the EEPROM.

9 Maintenance

9.1. Cleaning Methods

THE SCREEN UNIT AND THE MIRROR

- THE SCREEN UNIT (Lenticular Screen, Fresnel Lens)

It is strongly recommended that the Lenticular Screen surface (outside) and the Fresnel Lens surface (inside) should be wiped gently with a clean, soft, dry cloth to remove the dirt.

Note:

1. If the dirt cannot be removed by wiping with a clean, soft, dry cloth, use a clean, soft, dry cloth moistened with diluted neutral pH liquid cleanser or a lens cleaner (usually containing a small amount of ethyl alcohol) and wipe lightly. Take care not to leave any streaks. Do not use cleaning materials containing methyl alcohol, acetone, or dichloromethane.
2. Use an air blower to clean the inner surface of the Lenticular Screen and the outer surface of the Fresnel Lens (the surfaces that one another). These surfaces must not be wiped with a cloth.

- THE MIRROR

Remove any dirt with an air blower or wipe with a clean, soft, dry cloth. If wiped too forcefully, the surface of the Mirror can be damaged. If wiping with a clean, dry cloth does not remove the dirt, the Mirror must be replaced.

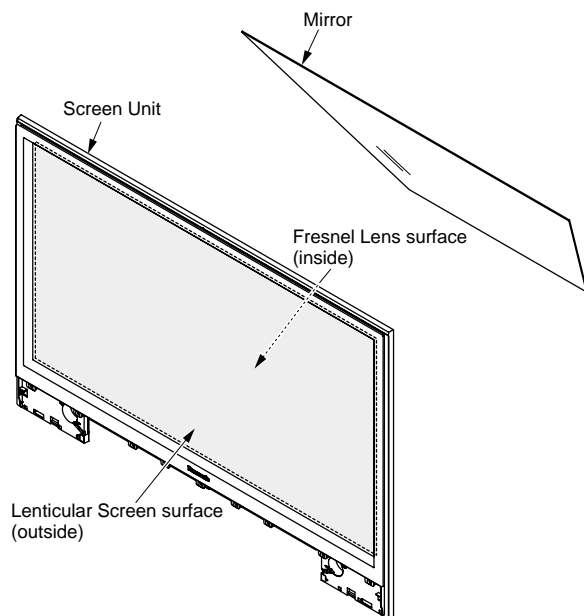


Fig. 6-1

THE PROJECTION LENS

Use lens cleaning paper and cleaner available at your local camera shop, etc. Dampen the cleaning paper with cleaner and gently wipe the surface of the lens from the center outward to remove dust.

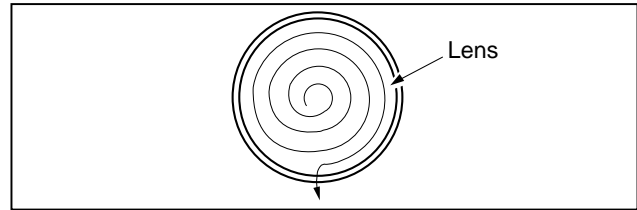


Fig. 6-2

THE FILTER ON THE OPT/TV UNIT

CAUTION:

Operating with torn or damaged Air Filter may cause damage to the OPT/TV Unit.

Remove the OPT/TV Unit from rear. Then, clean the air filters. Gently remove any accumulated dust from filter with a vacuum cleaner; use extreme care so as not to damage or tear the filters.

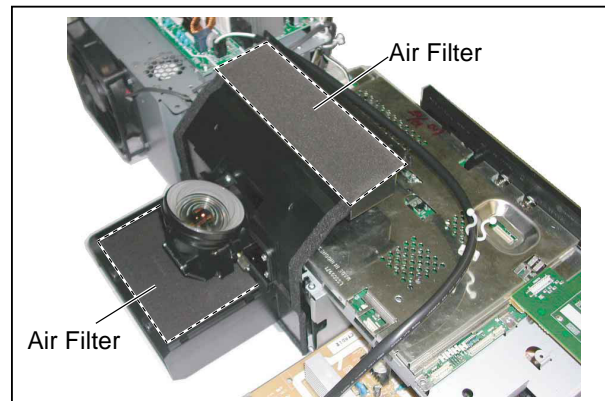


Fig. 6-3

10 Voltage Chart and Waveform of Connectors

MAIN P.C.B.

MODE PIN NO.	POWER ON	WF NO.
CN1101		
1	20.9	---
2	20.9	---
3	0	---
4	0	---
5	7.1	---
6	3.3	---
7	31.5	---
8	3.1	---
9	9.1	---
10	9.1	---
11	9.1	---
12	0	---
13	0	---
14	0	---
CN1102		
1	3.1	---
2	3.1	---
CN3001		
1	0	WF1
2	5.1	---
3	0	WF2
4	0	WF3
5	0	---
6	0	WF1
7	0	---
8	0	WF1
9	0	---
10	0	WF4
11	0	WF5
12	0	WF6
13	0	---
14	0	WF4
15	0	WF5
16	0	WF6
17	0	---
18	4.2	WF7
19	4.6	---
20	4.6	---
21	2.2	---
22	2.2	---
23	4.5	---
24	4.5	---
25	0	---
26	0	---
27	0	---
28	1.3	---
29	2.9	---
30	3.4	---
31	1.3	---
32	5.0	---
33	5.0	---
34	9.0	---
35	0	---

MODE PIN NO.	POWER ON	WF NO.
CN4501		
1	3.4	---
2	0	---
3	10.5	---
4	10.5	---
5	10.5	---
6	10.5	---
CN5503		
1	3.4	---
2	0	---
3	3.4	---
4	3.4	---
5	0	---
6	3.4	---
7	3.4	---
8	0	---
9	3.4	---
10	3.4	---
11	0	---
12	3.4	---
13	0	---
14	0	---
15	3.3	---
16	3.3	---
17	5.2	---
18	0	---
19	0	---
20	3.4	---
21	0	---
22	3.4	---
23	---	---
24	0	---
25	3.3	---
26	0	---
27	3.3	---
28	3.3	---
29	---	---
30	---	---
CN6003		
1	4.7	---
2	3.4	---
3	0	---
4	3.4	---
5	---	---
6	0	---
7	0	---
8	0	---
CN6005		
1	0	WF8
2	5.1	---
3	5.2	---
4	---	---
5	---	---
6	0	---

POWER P.C.B.

MODE PIN NO.	POWER ON	WF NO.
7	0.1	WF9
CN8201		
1	3.3	---
2	0	---
3	0	---
4	0	---
5	3.3	---
6	0	---
7	3.3	---
8	3.3	---
9	3.3	---
10	3.3	---
11	3.3	---
12	3.3	---
CN8801		
1	2.3	---
2	4.2	---
3	0	---
4	31.6	---
5	2.3	---
6	5.1	---
7	0	---
8	5.1	---
9	0	---
10	1.8	---
11	0	---
12	2.9	---
13	0	---
14	0	---
15	0	---
16	0	---
17	5.1	---
18	0	---
19	5.1	---
20	3.3	---

SD/HDMI P.C.B.

MODE PIN NO.	POWER ON	WF NO.
CN9802		
1	3.3	---
2	0	---
3	0	---
4	0	---
5	3.3	---
6	0	---
7	3.3	---
8	3.3	---
9	3.3	---
10	3.3	---
11	3.3	---
12	3.3	---
CN9804		
1	3.4	---
2	0	---
3	3.4	---
4	3.4	---
5	0	---
6	3.4	---
7	3.4	---
8	0	---
9	3.4	---
10	3.4	---
11	0	---
12	3.4	---
13	0	---
14	0	---
15	3.3	---
16	3.3	---
17	5.2	---
18	0	---
19	0	---
20	3.4	---
21	0	---
22	3.4	---
23	---	---
24	0	---
25	3.3	---
26	0	---
27	3.3	---
28	3.3	---
29	---	---
30	---	---

REAR JACK P.C.B.

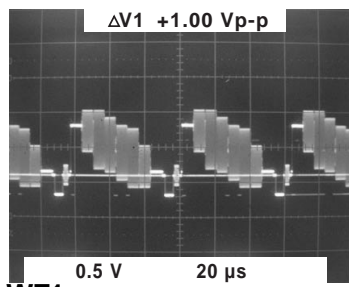
MODE PIN NO.	POWER ON	WF NO.
CN2751		
1	7.0	---
2	0	---
3	0	---
CN2752		
1	7.0	---
2	0	---
3	0	---
CN2753		
1	7.1	---
2	0	---
3	0.1	---
CN2754		
1	6.1	---
2	0	---
3	0.1	---
1	0	WF1
2	5.1	---
3	0	WF2
4	0	WF3
5	0	---
6	0	WF1
7	0	---
8	0	WF1
9	0	---
10	0	WF4
11	0	WF5
12	0	WF6
13	0	---
14	0	WF4
15	0	WF5
16	0	WF6
17	0	---
18	4.2	WF7
19	4.6	---
20	4.6	---
21	2.2	---
22	2.2	---
23	4.5	---
24	4.5	---
25	0	---
26	0	---
27	0	---
28	1.3	---
29	2.9	---
30	3.4	---
31	1.3	---
32	5.0	---
33	5.0	---
34	9.0	---
35	0	---

TUNER P.C.B.

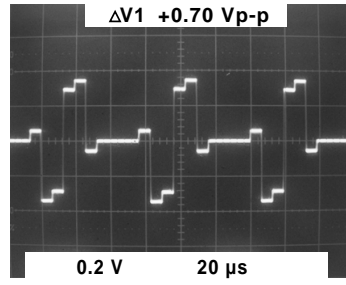
[illegible]

RF AMP POWER SUPPLY P.C.B.

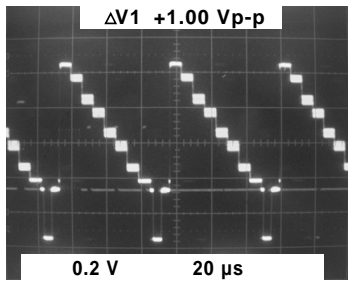
[illegible]



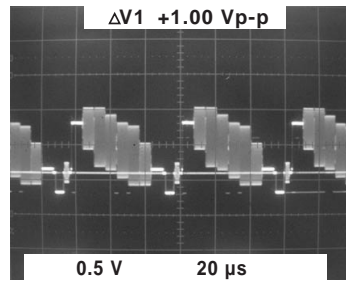
WF1



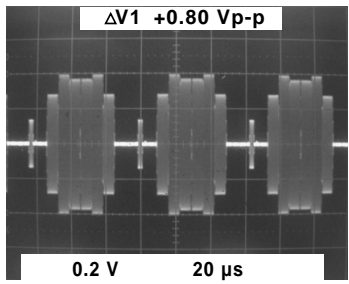
WF6



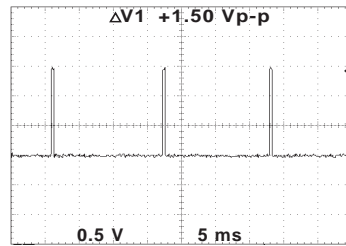
WF2



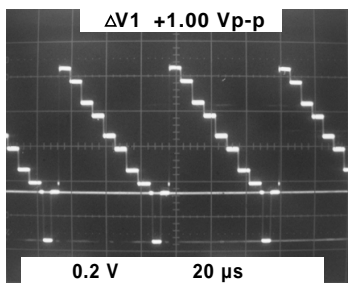
WF7



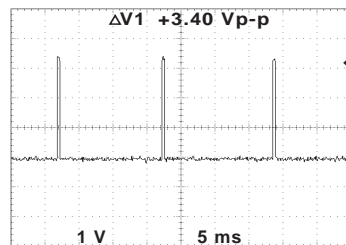
WF3



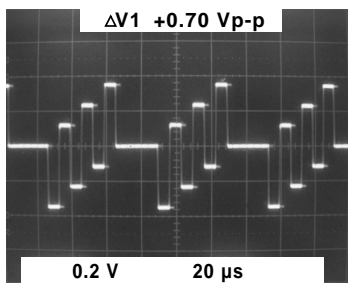
WF8



WF4



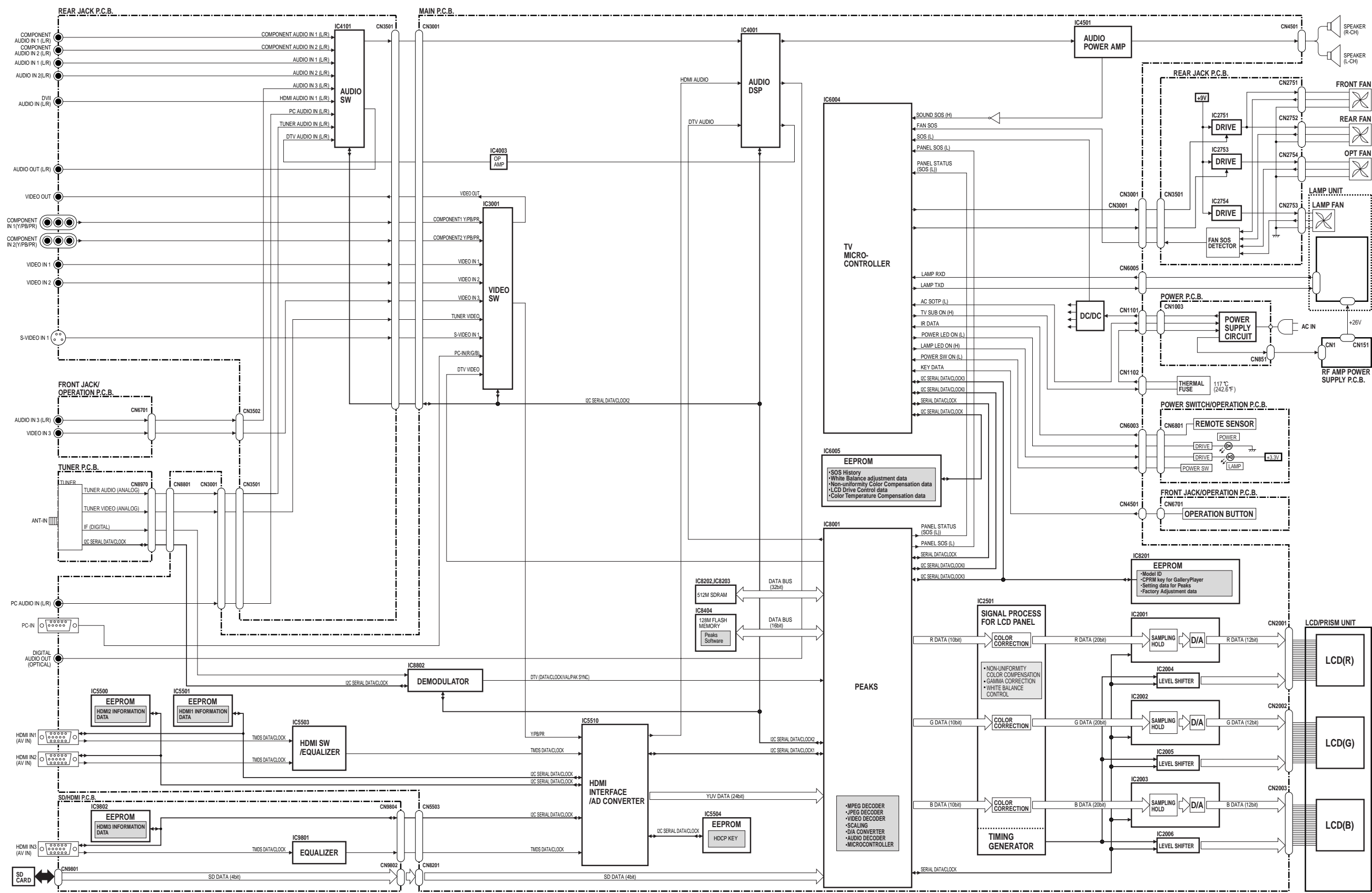
WF9



WF5

11 Block Diagrams




OVERALL BLOCK DIAGRAM



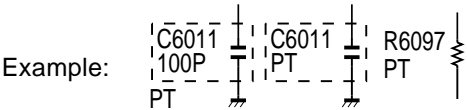
OVERALL BLOCK DIAGRAM
PT-56LCX70/PT-61LCX70/PT-50LCX7/PT-56LCX7
/PT-61LCX7/PT-50LCX7K/PT-56LCX70-K/PT-61LCX70-K

12 Schematic Diagrams

12.1. SCHEMATIC DIAGRAM & CIRCUIT BOARD LAYOUT NOTES

1. **Important safety notice**
Components identified by the sign  have special characteristics important for safety. When replacing any of these components. Use only the specified parts.
2. Do not use the part number shown on this drawing for ordering.
The correct part number and part value is shown in the parts list, and may be slightly different or amended since this drawing was prepared.
3. Use only original replacement parts:
To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
4. Parts different in shape or size may be used.
However, only interchangeable parts will be supplied as service replacement parts.
5. Test point information
 : Test point with a jumper wire across a hole in P.C.B.
 : Test point with no test pin.

3. Parts marked "PT" are not used in any models included in this service model.



4. Jumper wires are used for WA10, WA5 etc and these are not supplied as replacement parts.

Circuit Board Layout Note
Circuit Board Layout shows components installed for various models.
For proper parts content for the model you are servicing, please refer to the schematic diagram and parts list.

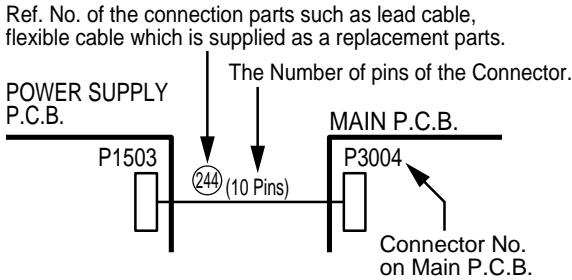
NOTE:
Circuit Board Layout includes components which are not used.

Schematic Diagram Notes

1. Indication for Zener Voltage of Zener Diodes
The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

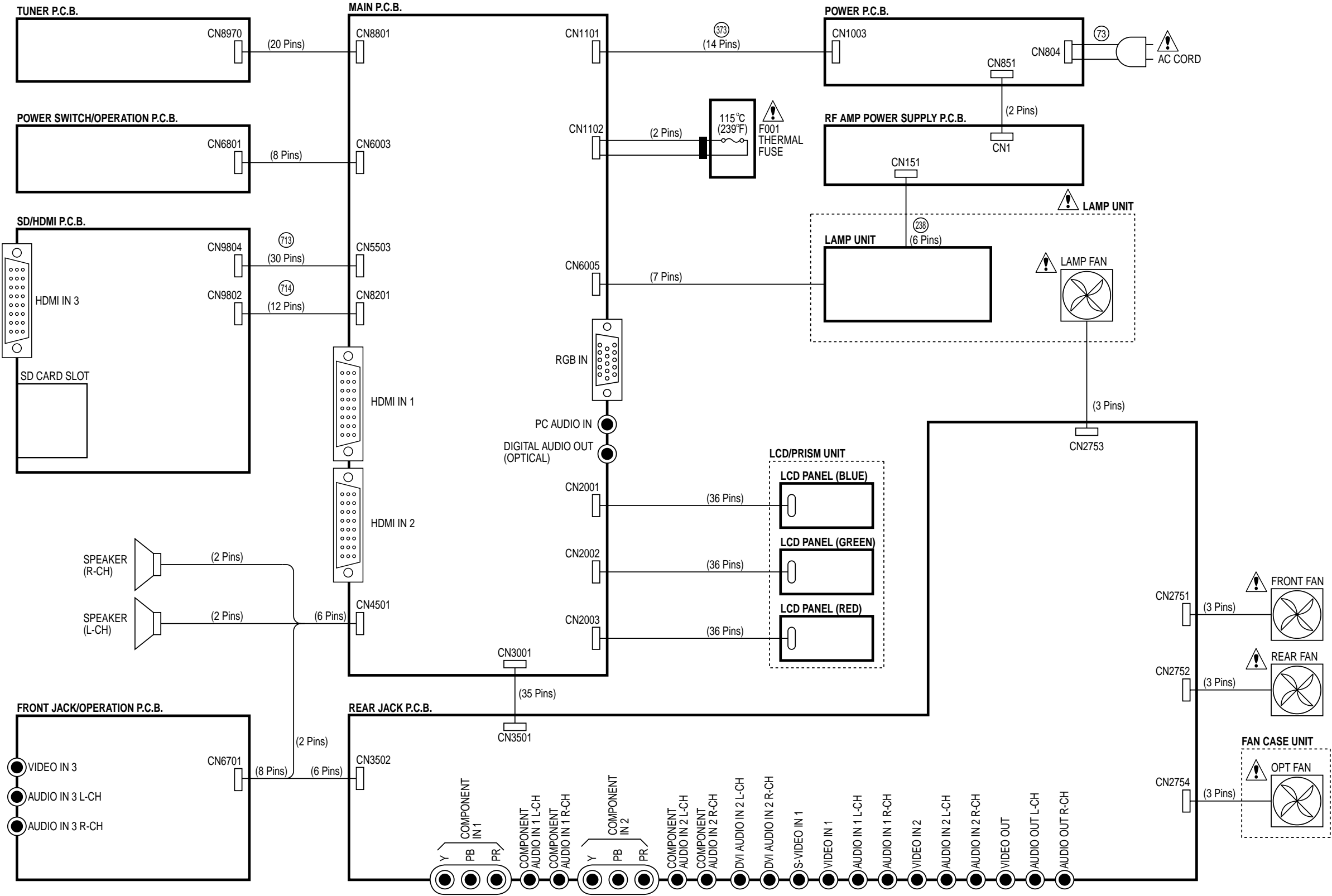
Example:
(6.2V).....Zener Voltage
2. How to identify Connectors
Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to, in other words, its counter part.
Use the interconnection schematic diagram to find the connection between associated connectors.


Example:
The connections between P.C.B.s are shown below.



12.2. INTERCONNECTION SCHEMATIC DIAGRAM

INTERCONNECTION SCHEMATIC DIAGRAM



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN  HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.


INTERCONNECTION SCHEMATIC DIAGRAM
PT-56LCX70/PT-61LCX70/PT-50LCX7/PT-56LCX7
/PT-61LCX7/PT-50LCX7K/PT-56LCX70-K/PT-61LCX70-K

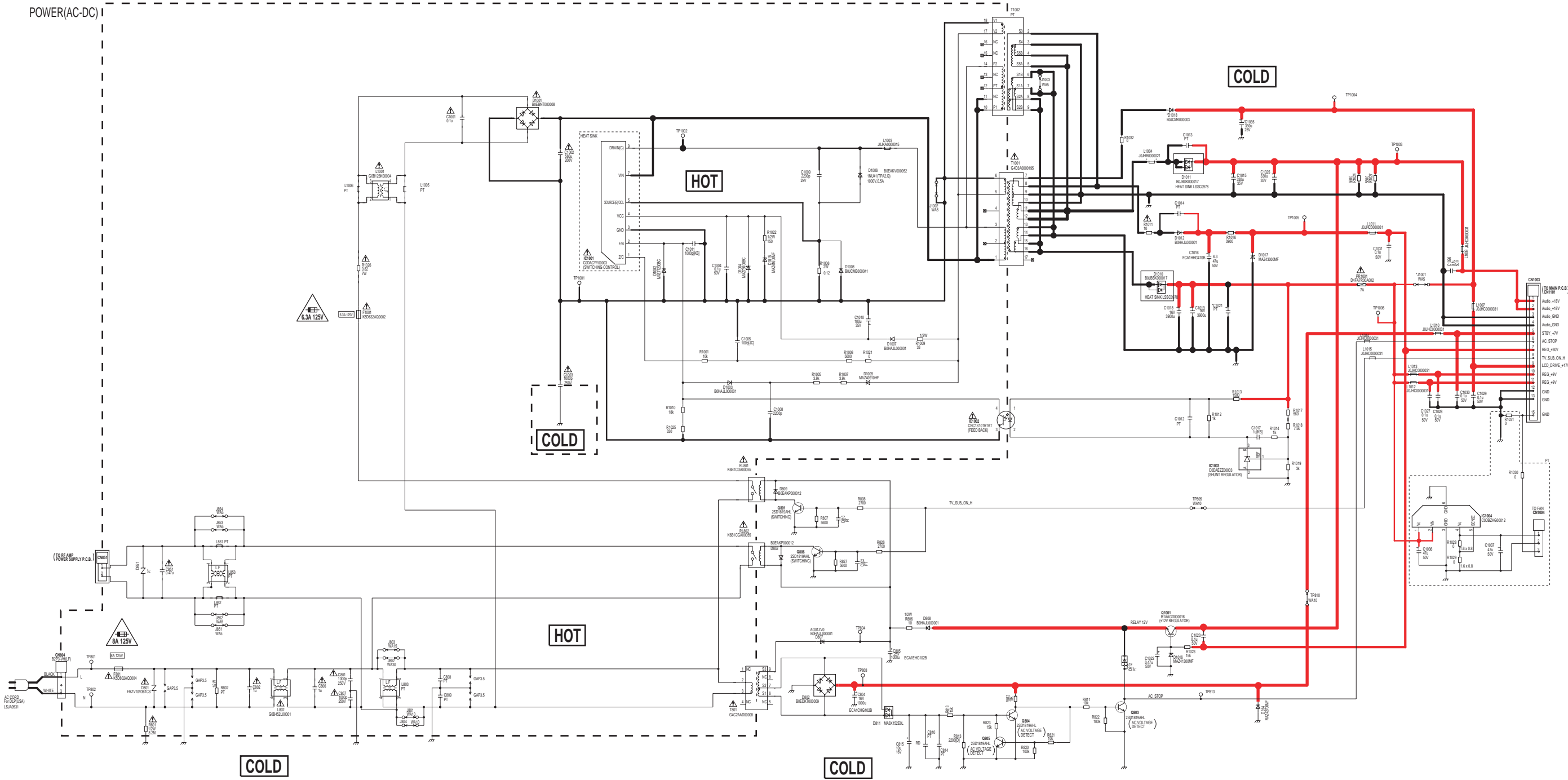
12.3. POWER SCHEMATIC DIAGRAMS

POWER SCHEMATIC DIAGRAM

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 8A 125V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N'UTILISERQUE DES FUSIBLE DE MÊME
TYPE 8A 125V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 6.3A 125V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N'UTILISERQUE DES FUSIBLE DE MÊME
TYPE 6.3A 125V

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN  HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.



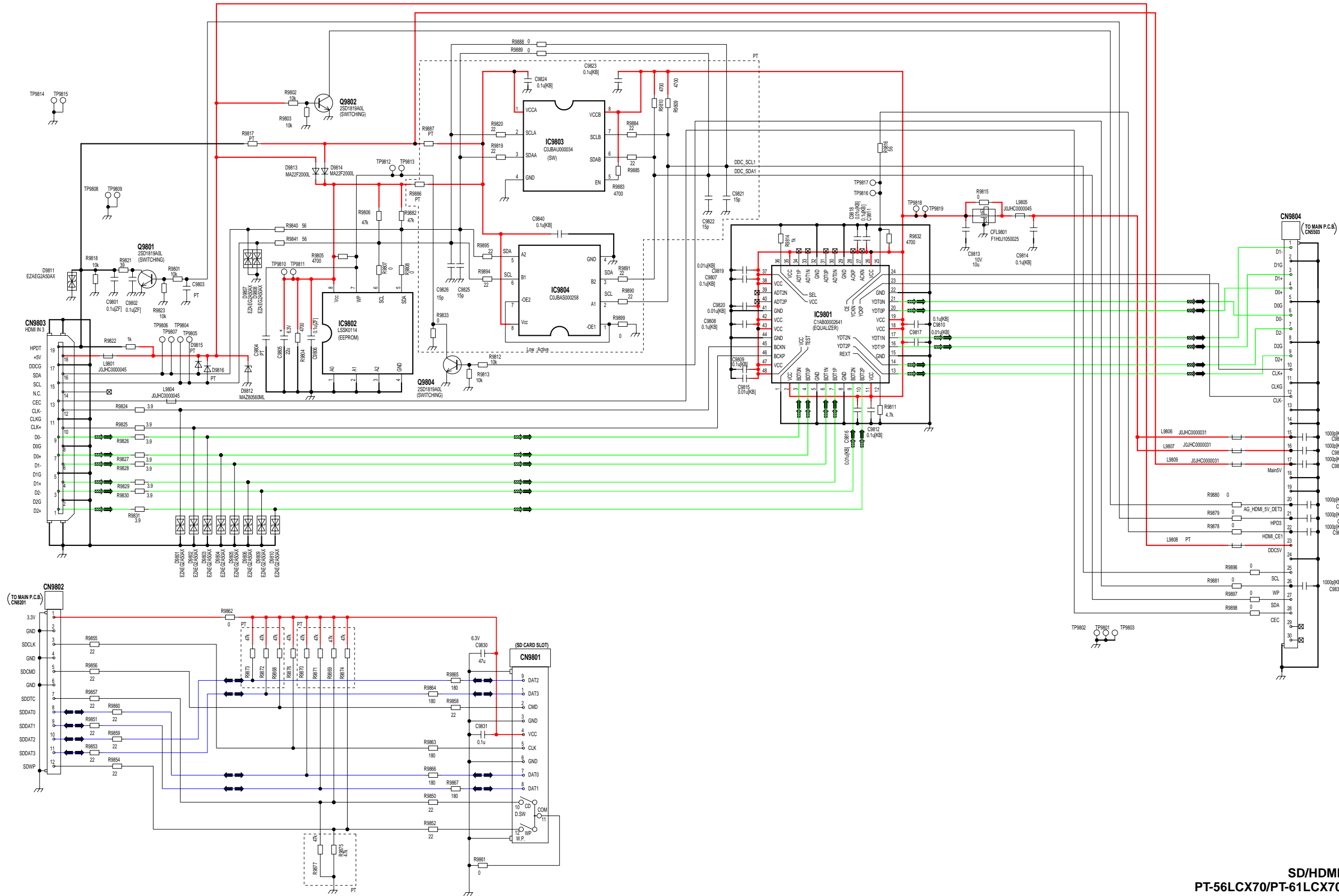
POWER SCHEMATIC DIAGRAM
PT-56LCX70/PT-61LCX70/PT-50LCX7/PT-56LCX7
/PT-61LCX7/PT-50LCX7K/PT-56LCX70-K/PT-61LCX70-K

12.4. SD/HDMI SCHEMATIC DIAGRAM

SD/HDMI SCHEMATIC DIAGRAM

SD/HDMI

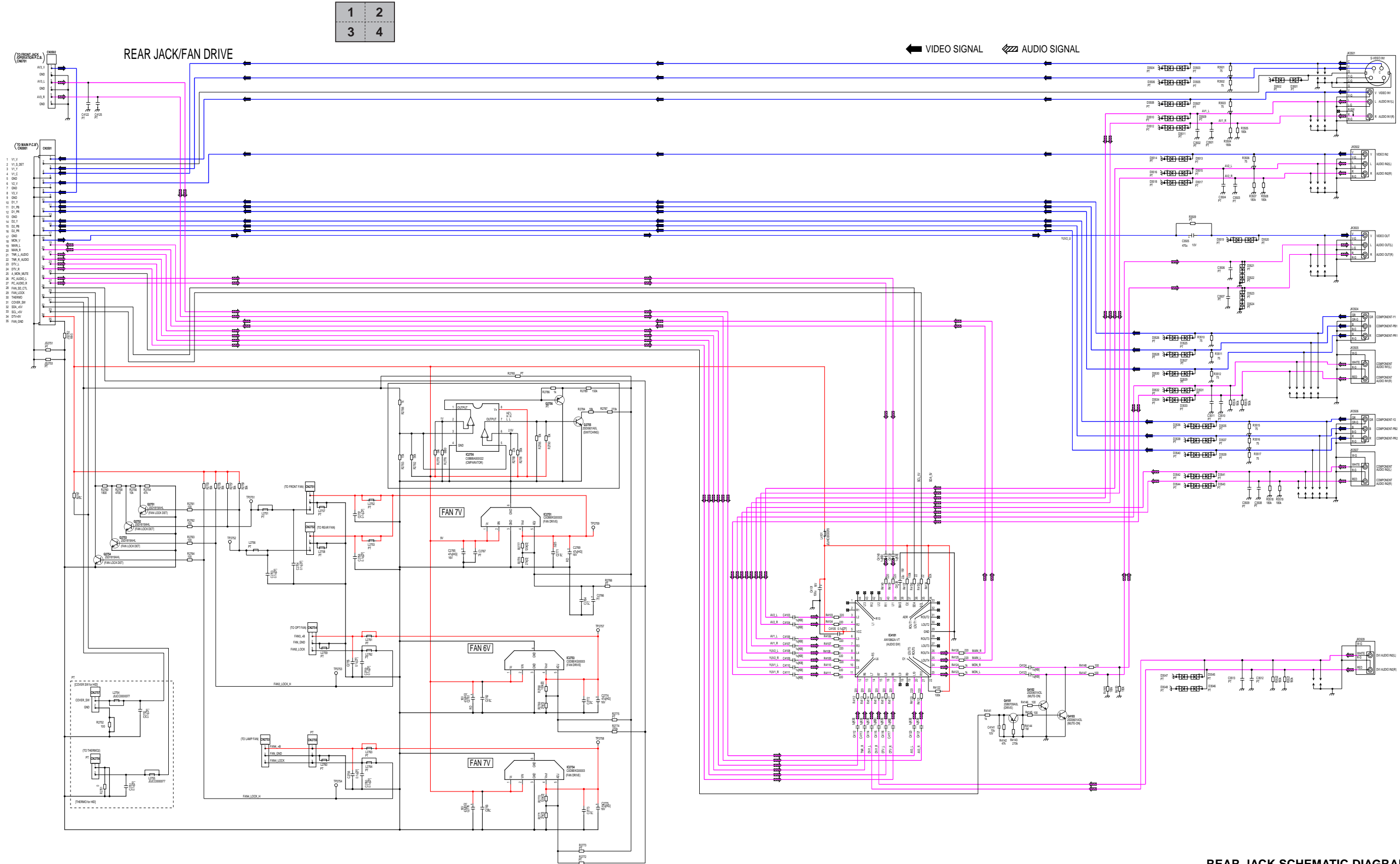
← VIDEO SIGNAL ↔ AUDIO SIGNAL



SD/HDMI SCHEMATIC DIAGRAM
PT-56LCX70/PT-61LCX70/PT-50LCX7/PT-56LCX7
/PT-61LCX7/PT-50LCX7K/PT-56LCX70-K/PT-61LCX70-K

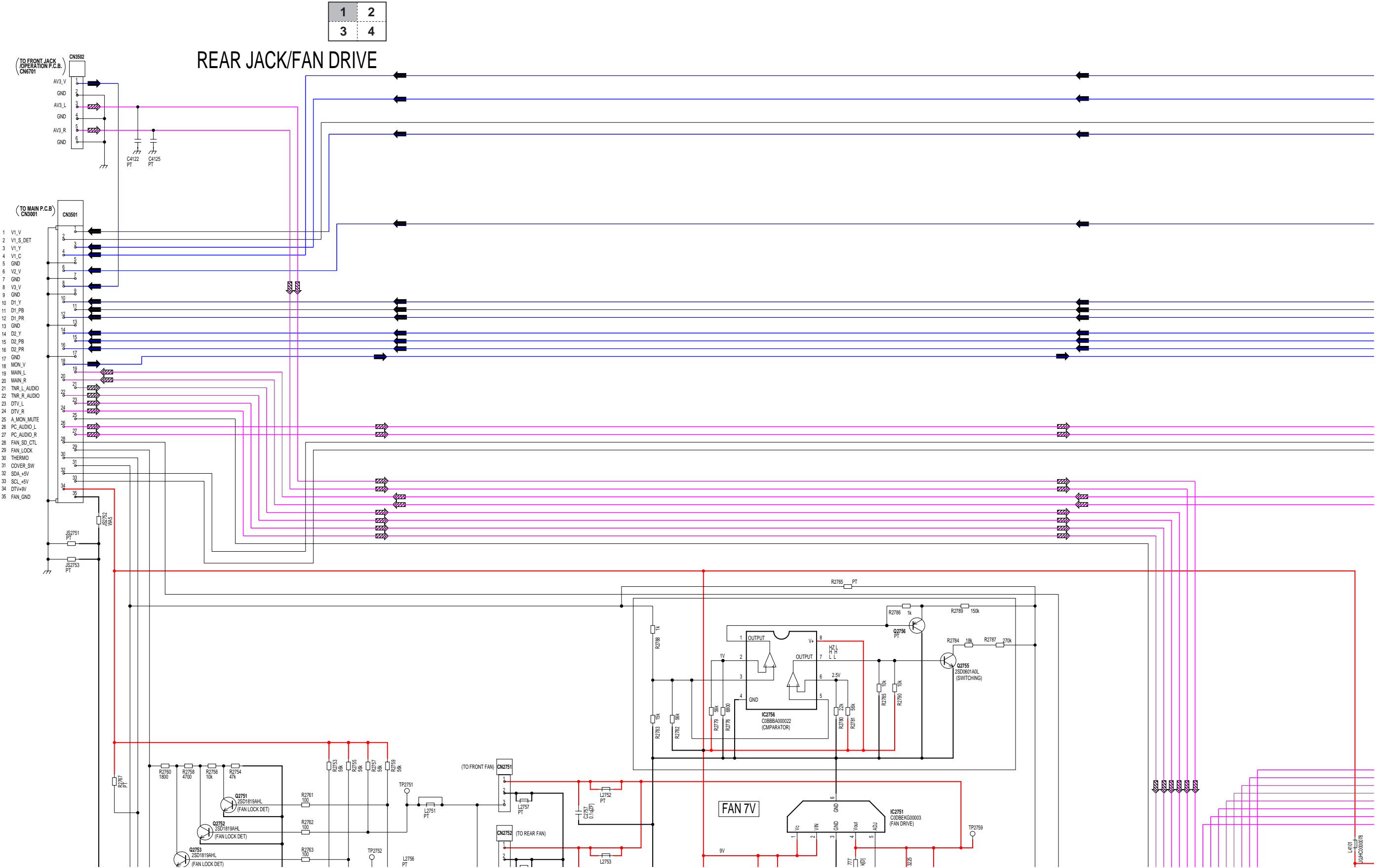
12.5. REAR JACK SCHEMATIC DIAGRAM

REAR JACK SCHEMATIC DIAGRAM



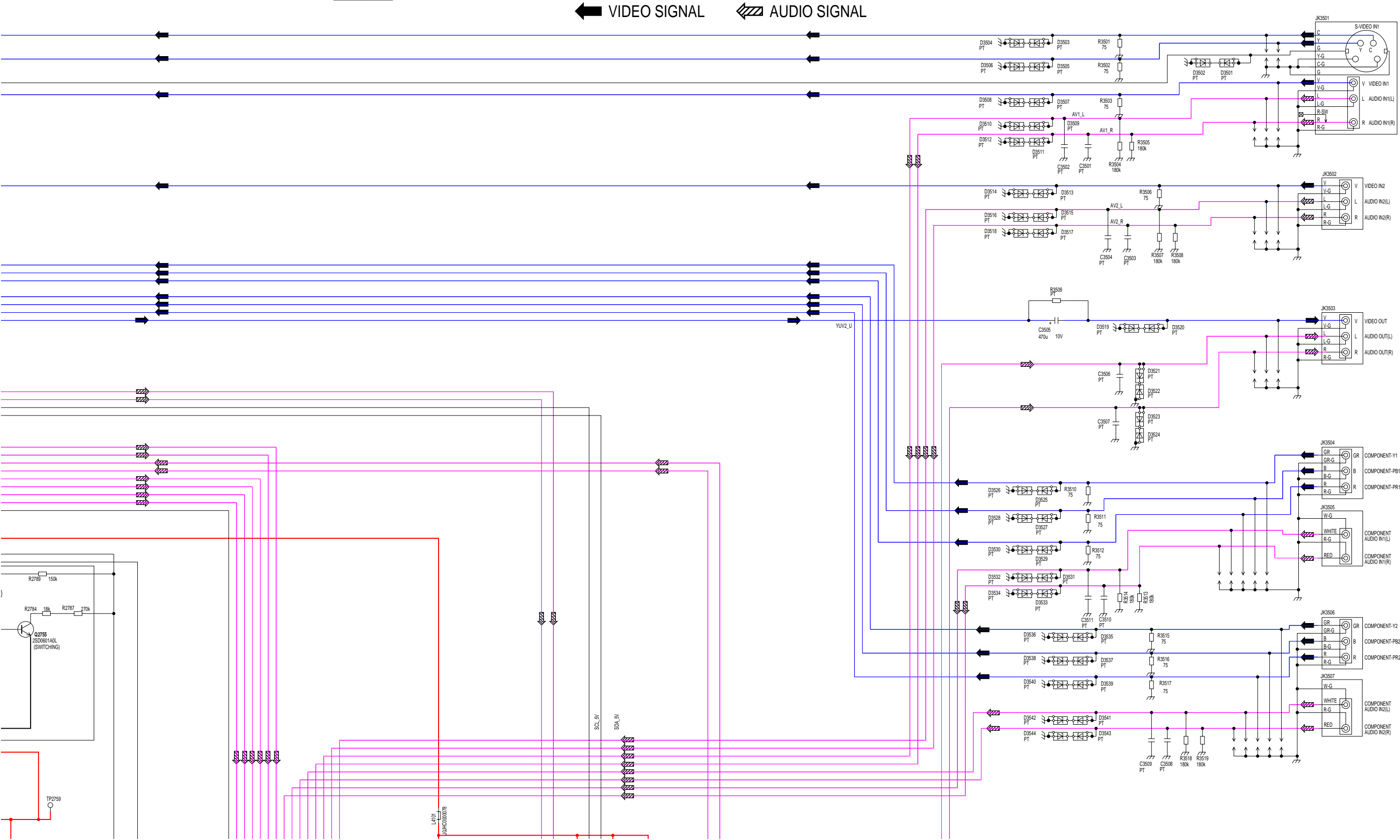
REAR JACK SCHEMATIC DIAGRAM
PT-56LCX70/PT-61LCX70/PT-50LCX7/PT-56LCX7
/PT-61LCX7/PT-50LCX7K/PT-56LCX70-K/PT-61LCX70-K

REAR JACK SCHEMATIC DIAGRAM

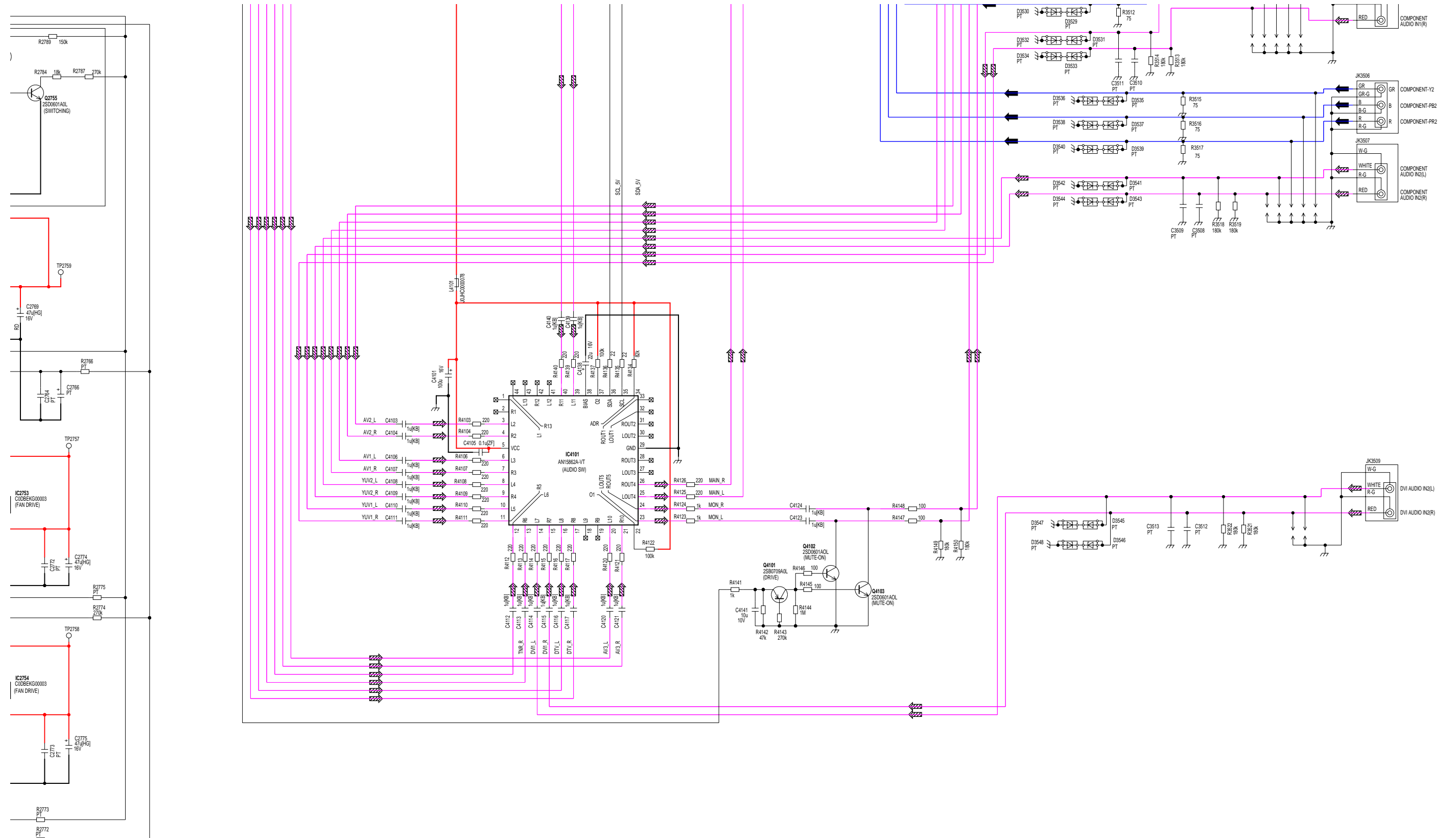


REAR JACK SCHEMATIC DIAGRAM

1	2
3	4

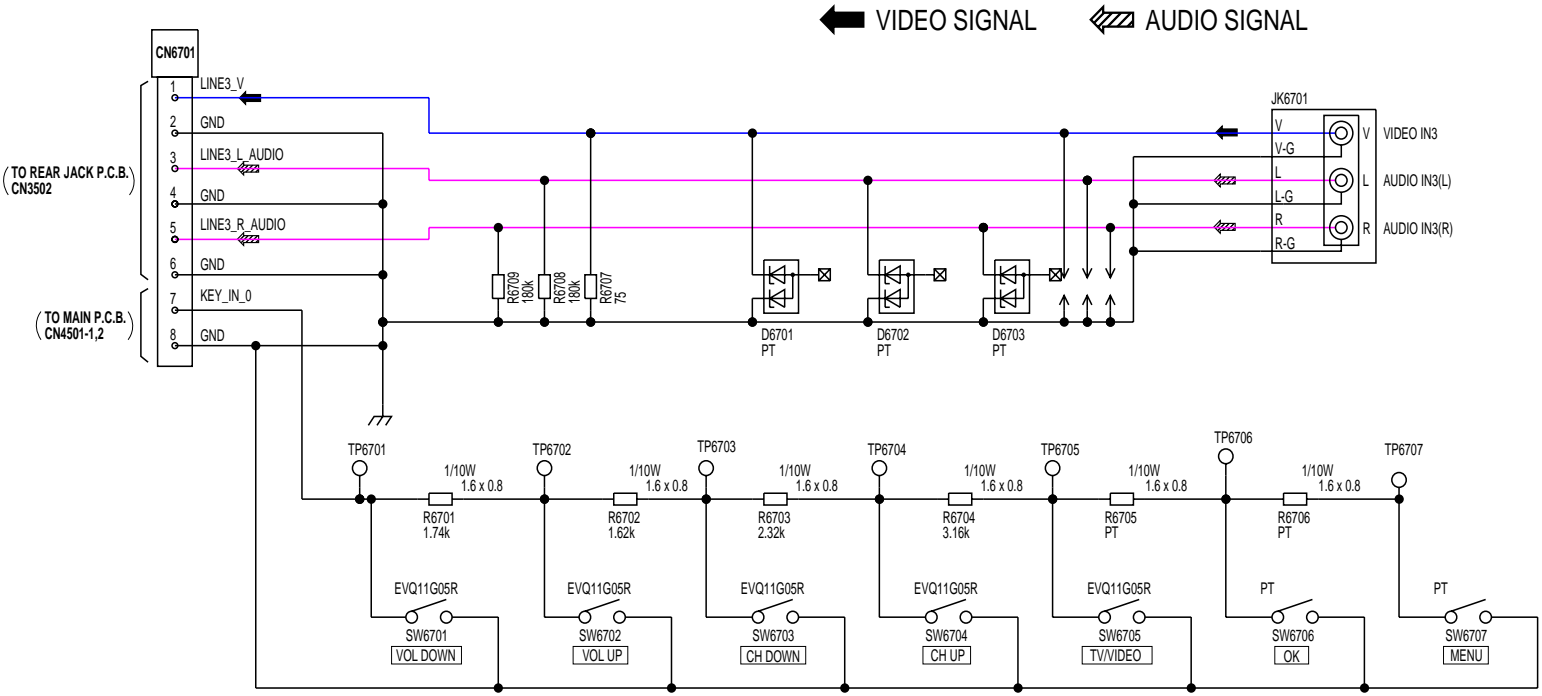


1	2
3	4

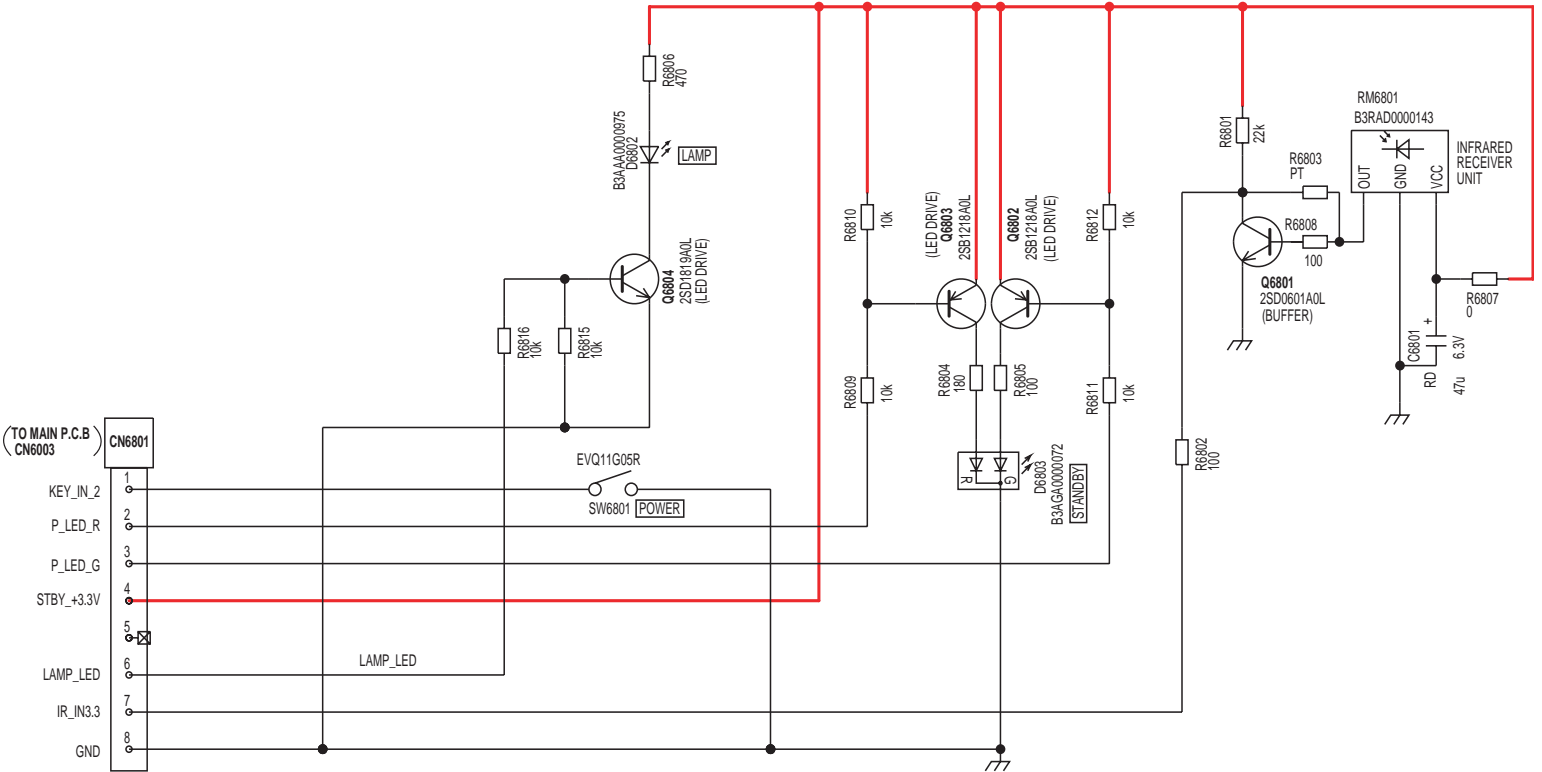


12.6. FRONT JACK/OPERATION / POWER SWITCH / TUNER SCHEMATIC DIAGRAM

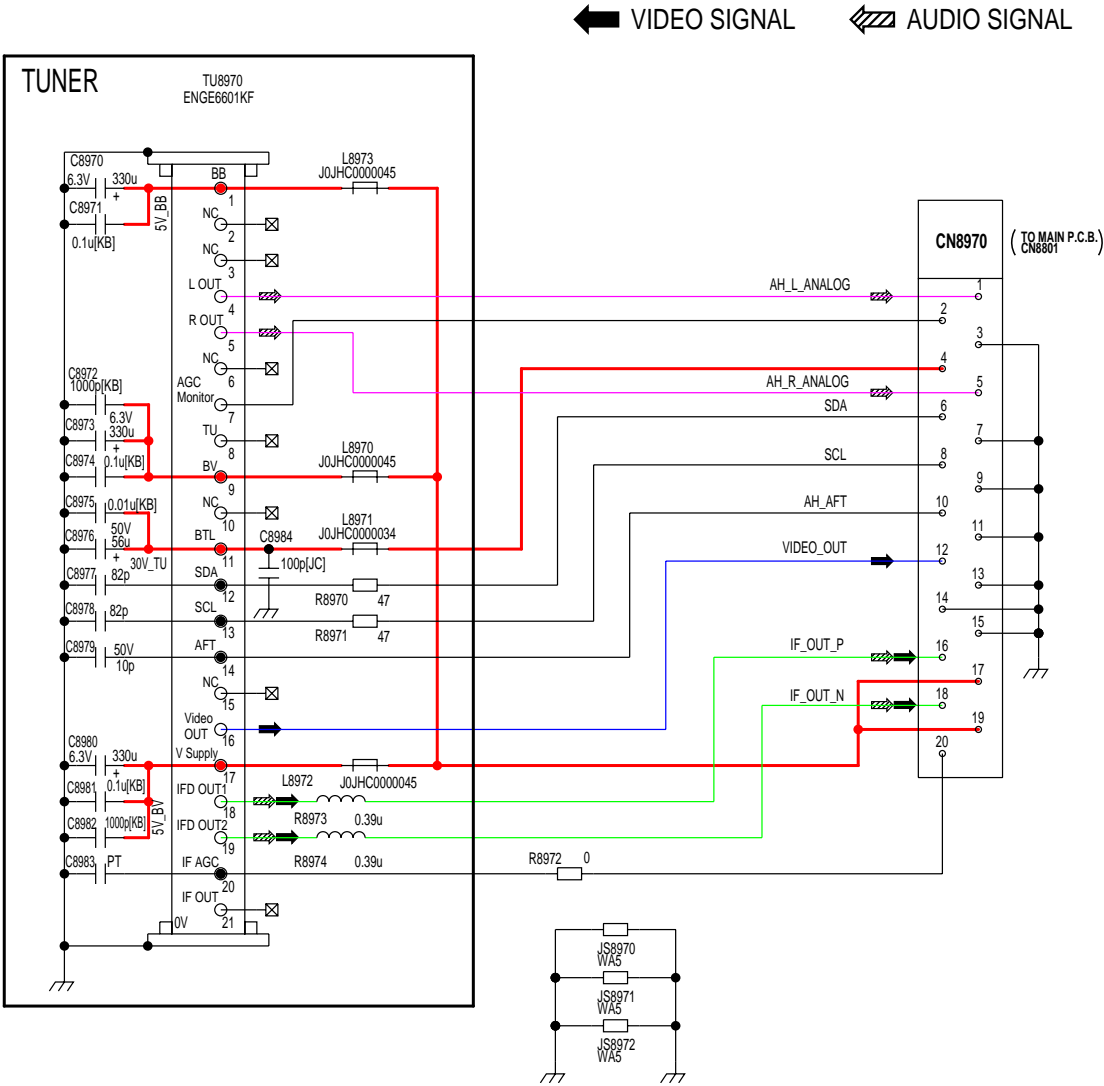
FRONT JACK/OPERATION SCHEMATIC DIAGRAM



POWER SWITCH/OPERATION SCHEMATIC DIAGRAM



TUNER SCHEMATIC DIAGRAM



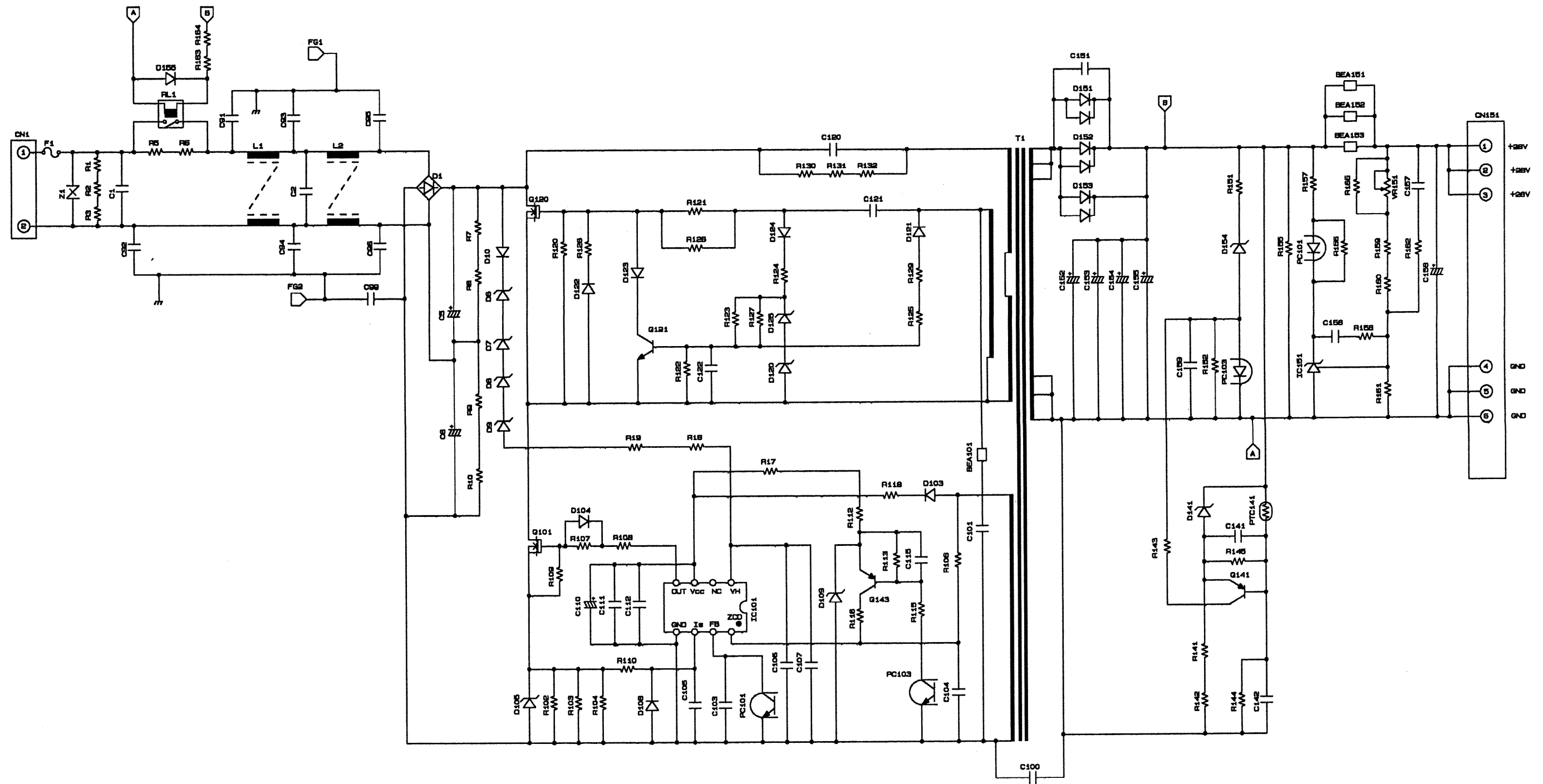
FRONT JACK/OPERATION SCHEMATIC DIAGRAM
POWER SWITCH/OPERATION SCHEMATIC DIAGRAM
TUNER SCHEMATIC DIAGRAM
PT-56LCX70/PT-61LCX70/PT-50LCX7/PT-56LCX7
/PT-61LCX7/PT-50LCX7K/PT-56LCX70-K/PT-61LCX70-K

12.7. RF AMP POWER SUPPLY SCHEMATIC DIAGRAM

RF AMP POWER SUPPLY SCHEMATIC DIAGRAM

"FOR REFERENCE ONLY"

NOTE:
RF AMP POWER SUPPLY P.C.B. IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.



RF AMP POWER SCHEMATIC DIAGRAM
PT-56LCX70/PT-61LCX70/PT-50LCX7/PT-56LCX7
/PT-61LCX7/PT-50LCX7K/PT-56LCX70-K/PT-61LCX70-K


13 Printed Circuit Board

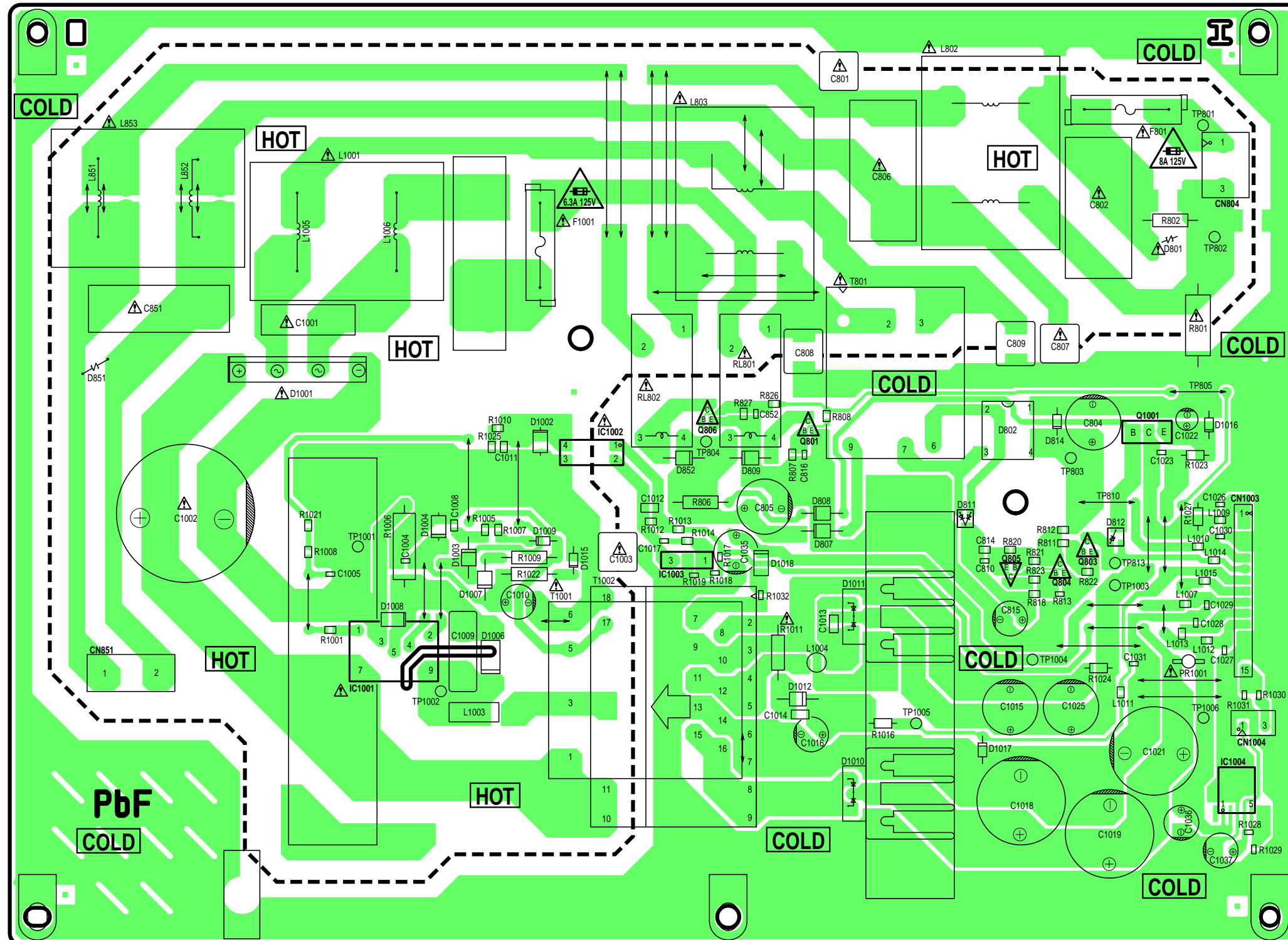
13.1. POWER P.C.B.

POWER P.C.B. LSEP3237A

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 6.3A 125V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N'UTILISER QUE DES FUSIBLES DE MÊME
TYPE 6.3A 125V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 8A 125V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N'UTILISER QUE DES FUSIBLES DE MÊME
TYPE 8A 125V

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN  HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.



HOT CIRCUIT. BE CAREFUL AND USE AN ISOLATION TRANSFORMER WHEN SERVICING.

LSJB3237

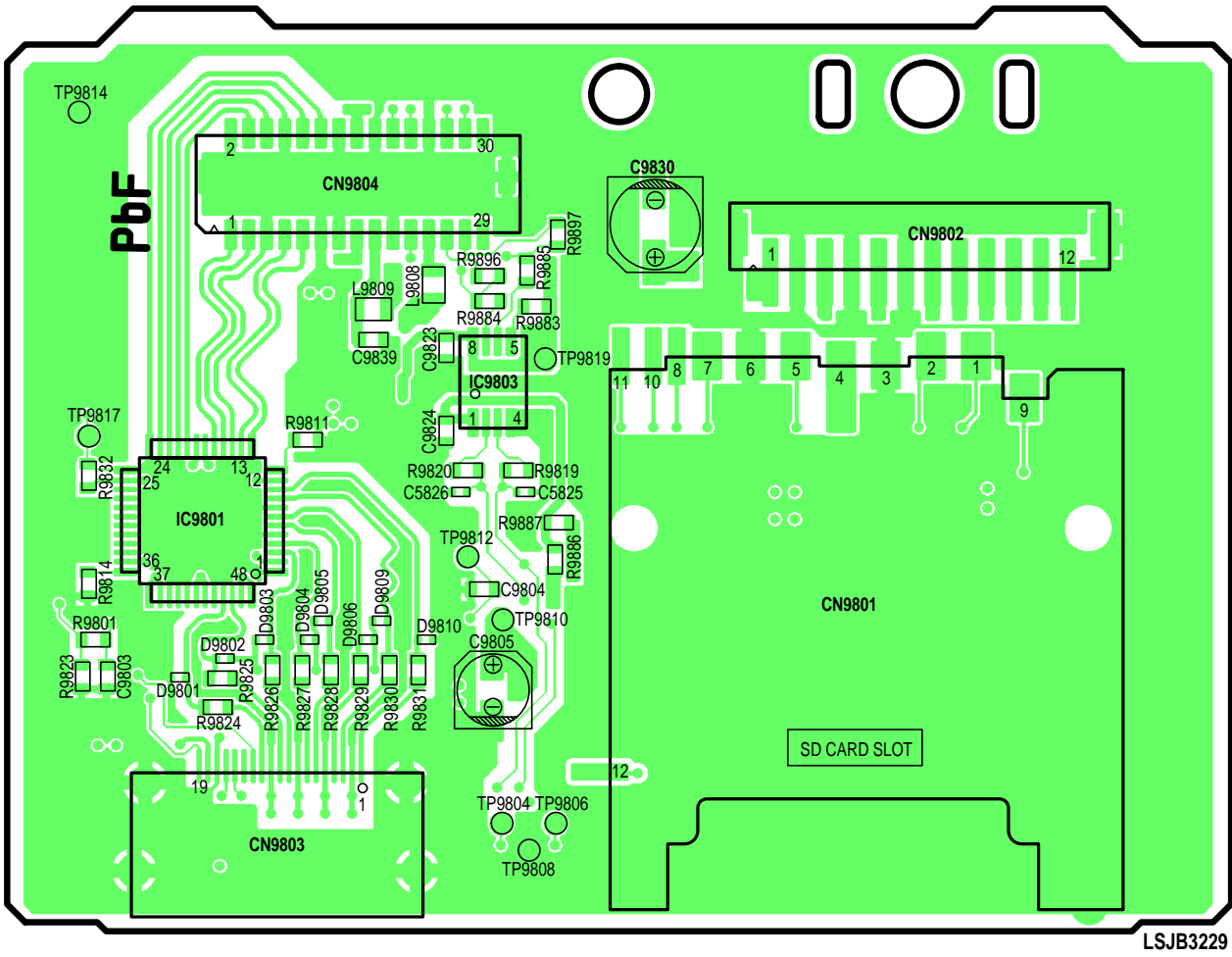
POWER P.C.B. LSEP3237A
PT-56LCX70/PT-61LCX70/PT-50LCX7/PT-56LCX7
/PT-61LCX7/PT-50LCX7K/PT-56LCX70-K/PT-61LCX70-K

13.2. SD/HDMI P.C.B.

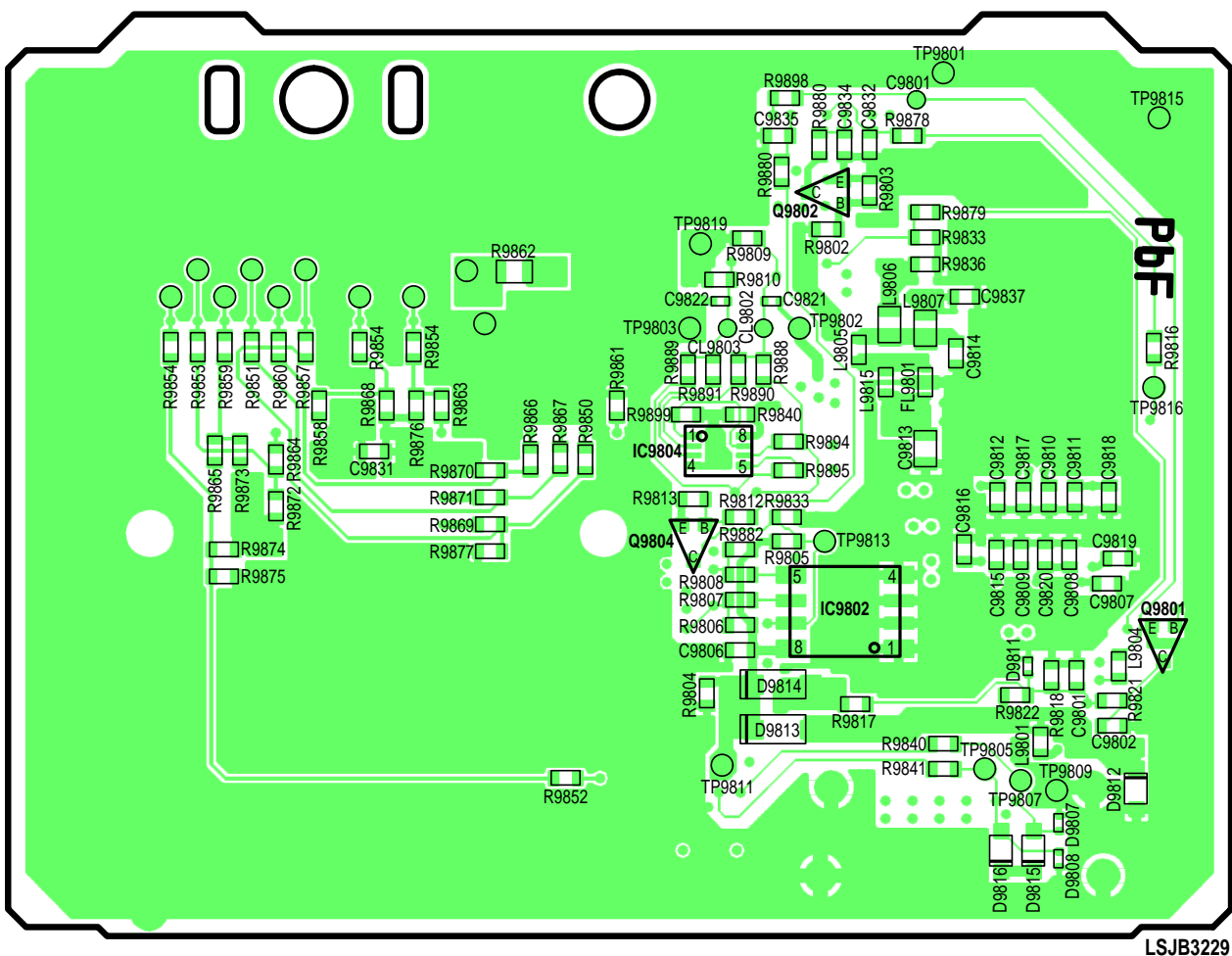
SD/HDMI P.C.B. LSEP3229A

NOTE: MULTILAYER P.C.B.
THIS P.C.B. IS Multi-Layer P.C.B. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN
FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH
SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

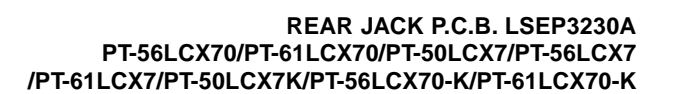
(COMPONENT SIDE)



(FOIL SIDE)

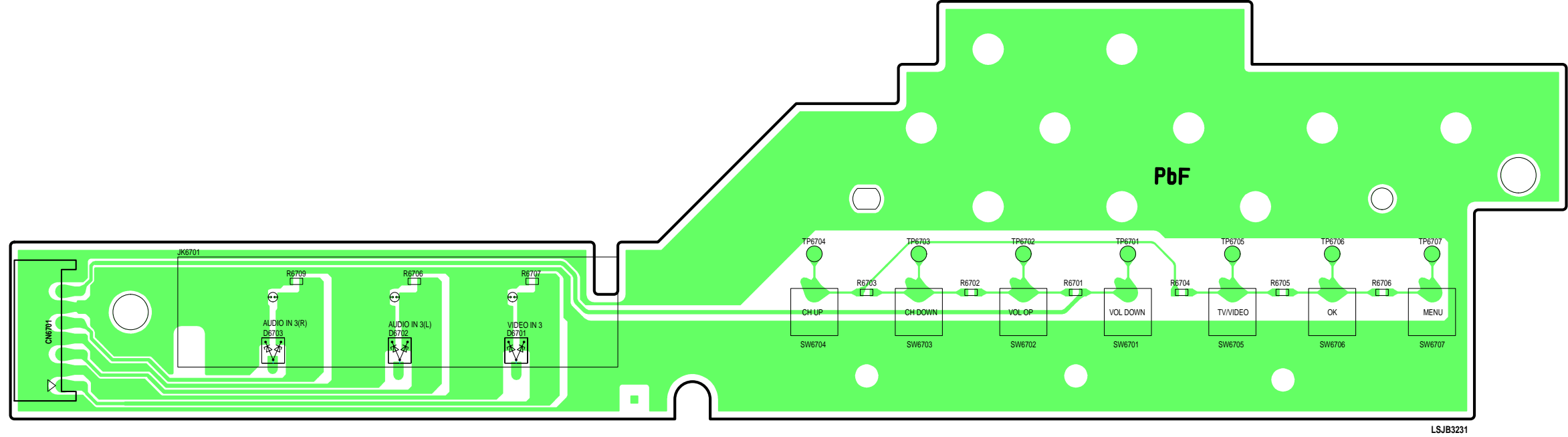


REAR JACK P.C.B. LSEP3230A

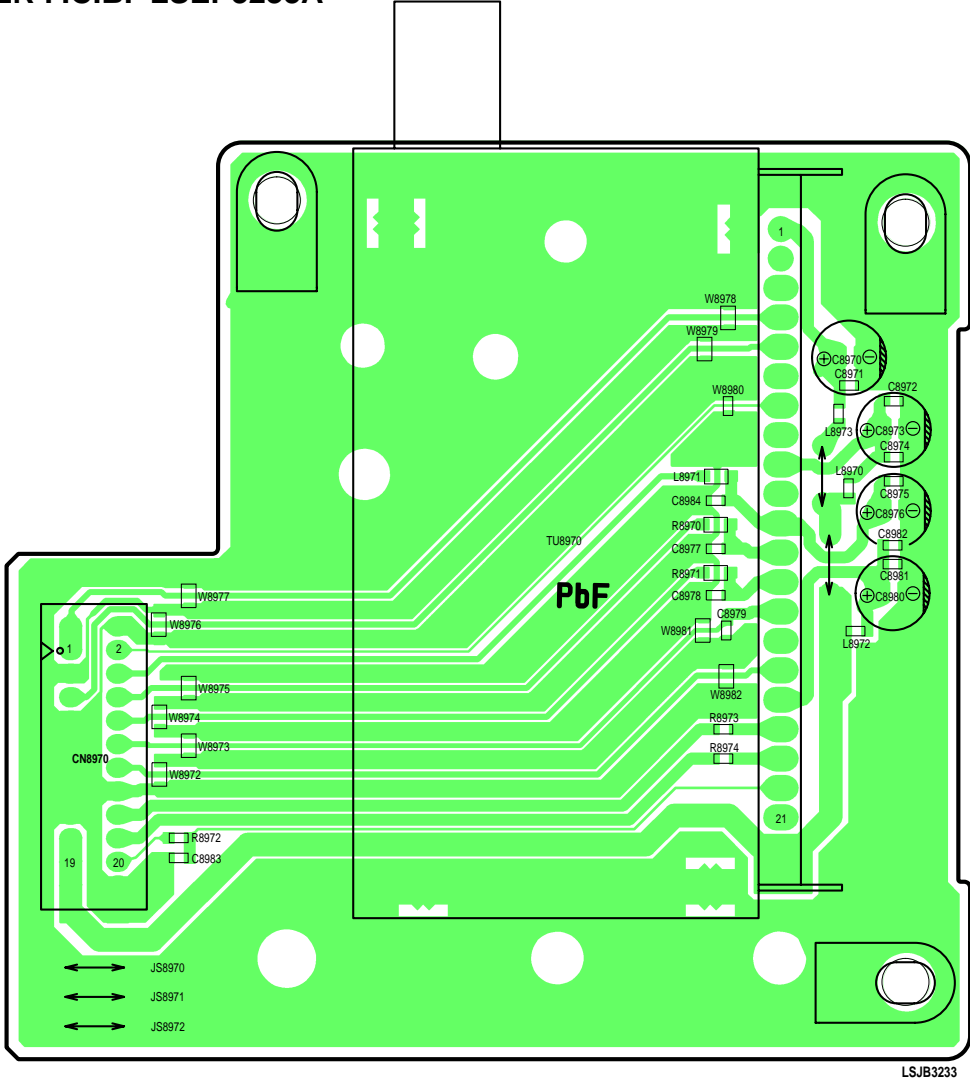


13.4. FRONT JACK/OPERATION P.C.B. / TUNER P.C.B. / POWER SWITCH/OPERATION P.C.B.

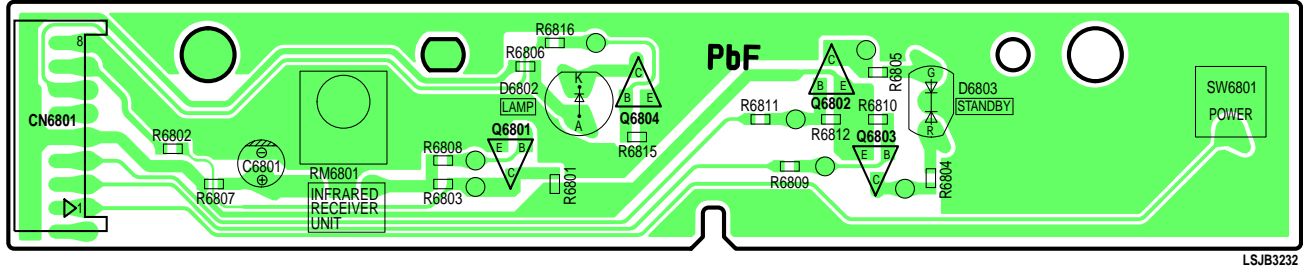
FRONT JACK/OPERATION P.C.B. LSEP3231A



TUNER P.C.B. LSEP3233A



POWER SWITCH/OPERATION P.C.B. LSEP3232A



FRONT JACK/OPERATION P.C.B. LSEP3231A
TUNER P.C.B. LSEP3233A
POWER SWITCH/OPERATION P.C.B. LSEP3232A
PT-56LCX70/PT-61LCX70/PT-50LCX7/PT-56LCX7
/PT-61LCX7/PT-50LCX7K/PT-56LCX70-K/PT-61LCX70-K

14 Exploded Views

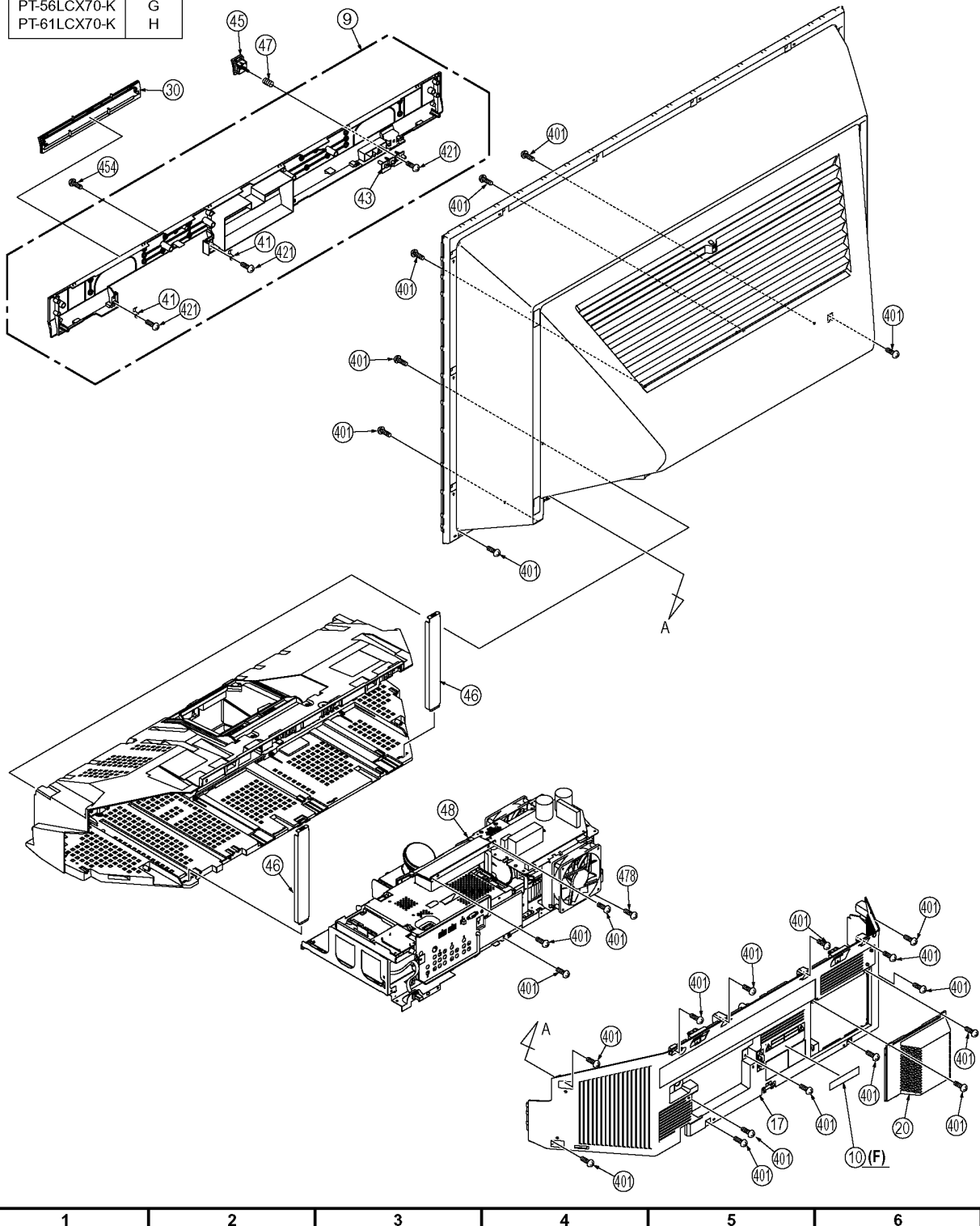
14.1. MAIN PARTS SECTION

① 50 INCH MAIN PARTS SECTION (Models: C, F)

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PT-56LCX70	A
PT-61LCX70	B
PT-50LCX7	C
PT-56LCX7	D
PT-61LCX7	E
PT-50LCX7K	F
PT-56LCX70-K	G
PT-61LCX70-K	H

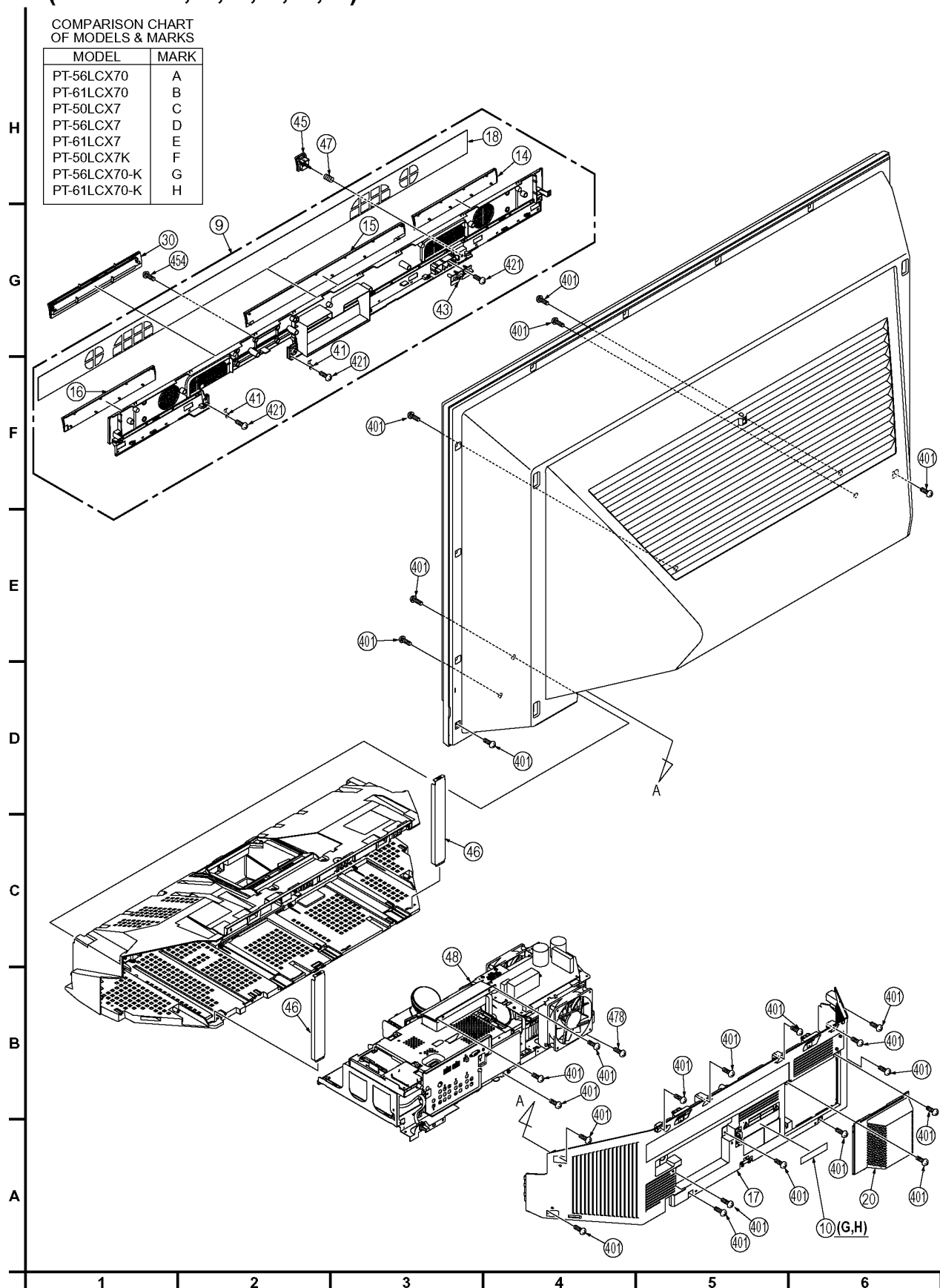
H
G
F
E
D
C
B
A



1 56/61 INCH MAIN PARTS SECTION **(Models: A, B, D, E, G, H)**

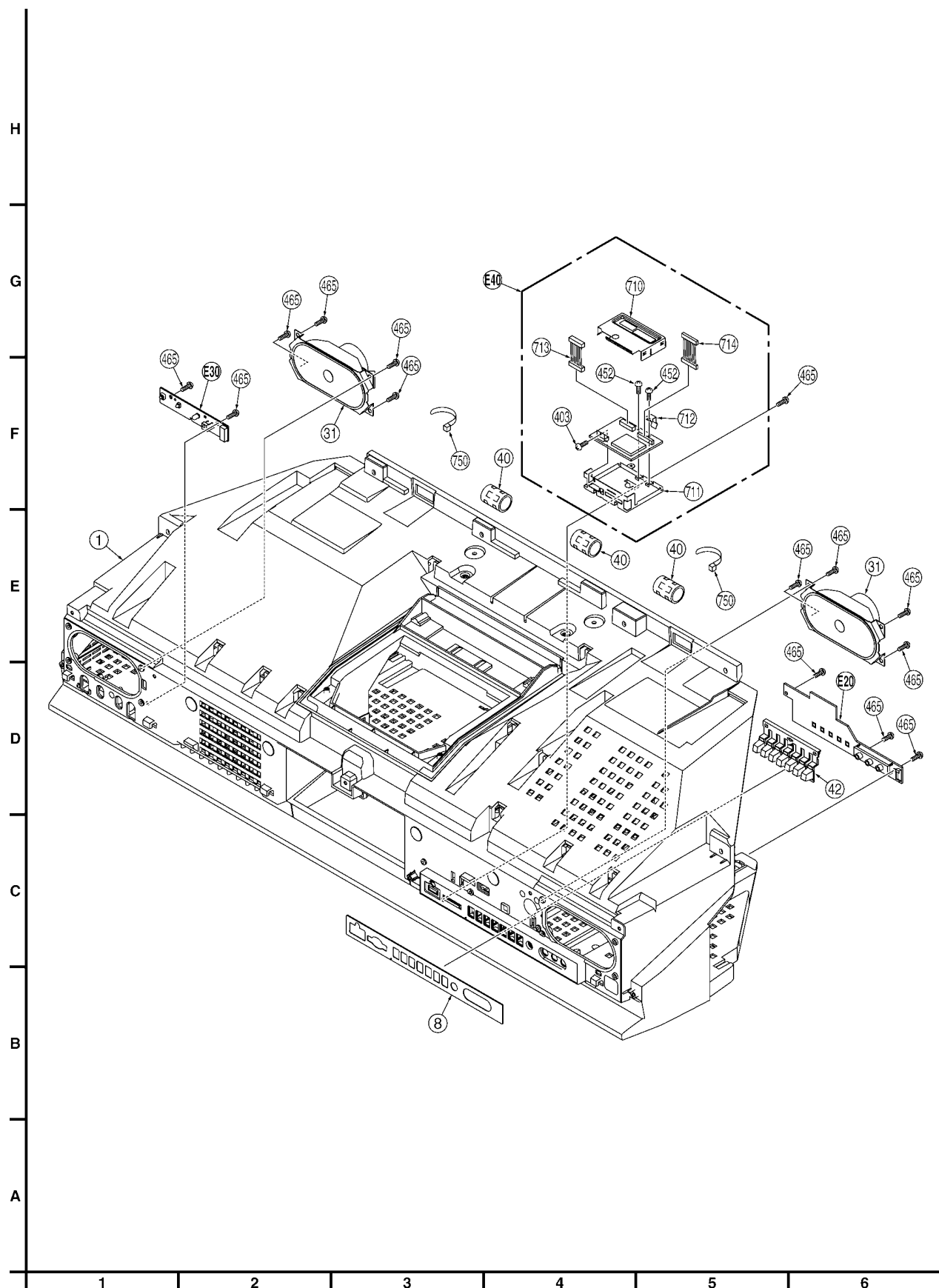
COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PT-56LCX70	A
PT-61LCX70	B
PT-50LCX7	C
PT-56LCX7	D
PT-61LCX7	E
PT-50LCX7K	F
PT-56LCX70-K	G
PT-61LCX70-K	H



14.2. BASE BODY SECTION

② BASE BODY SECTION

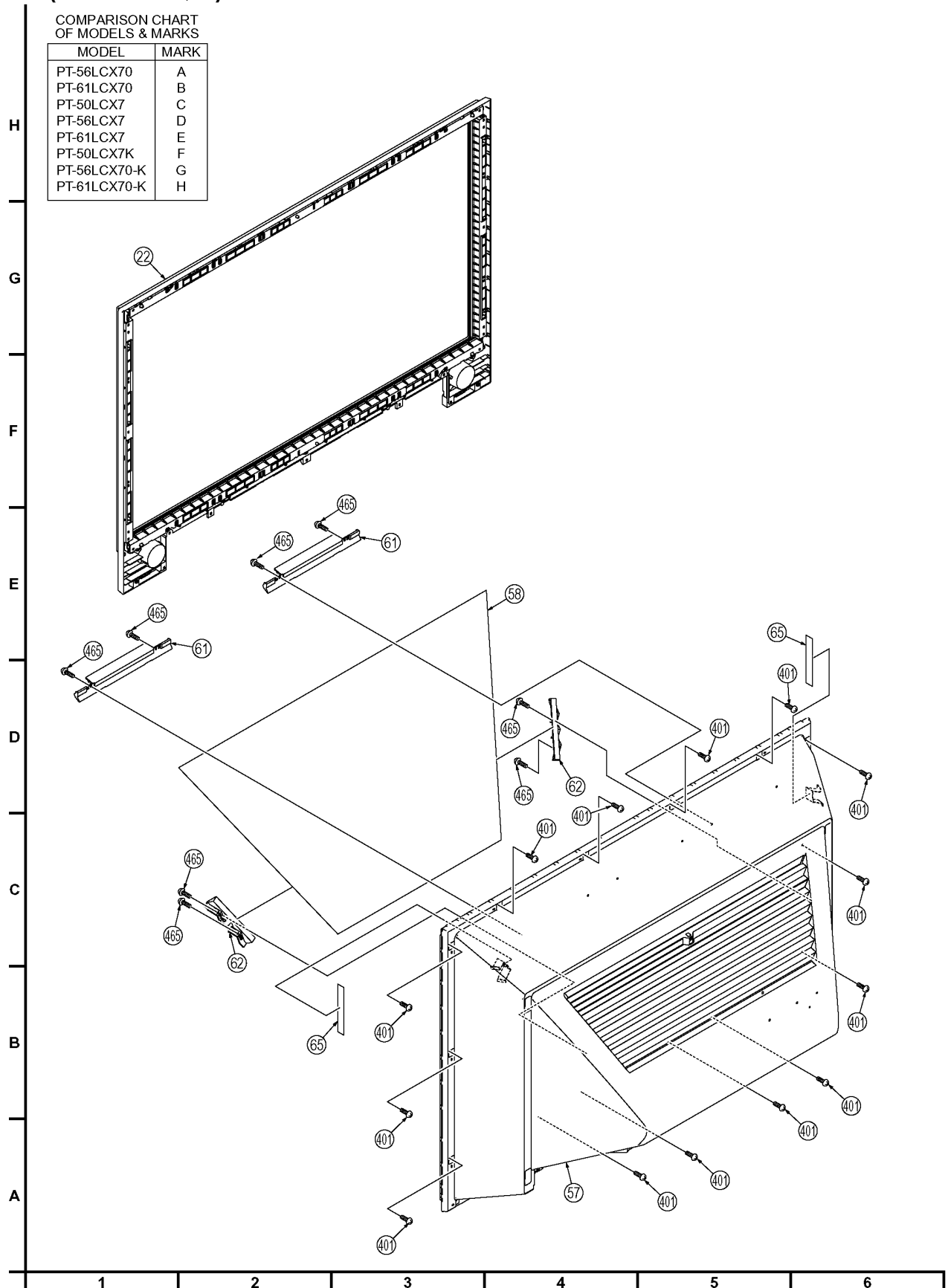


14.3. DISPLAY SECTION

③ 50 INCH DISPLAY SECTION (Models: C, F)

COMPARISON CHART
OF MODELS & MARKS

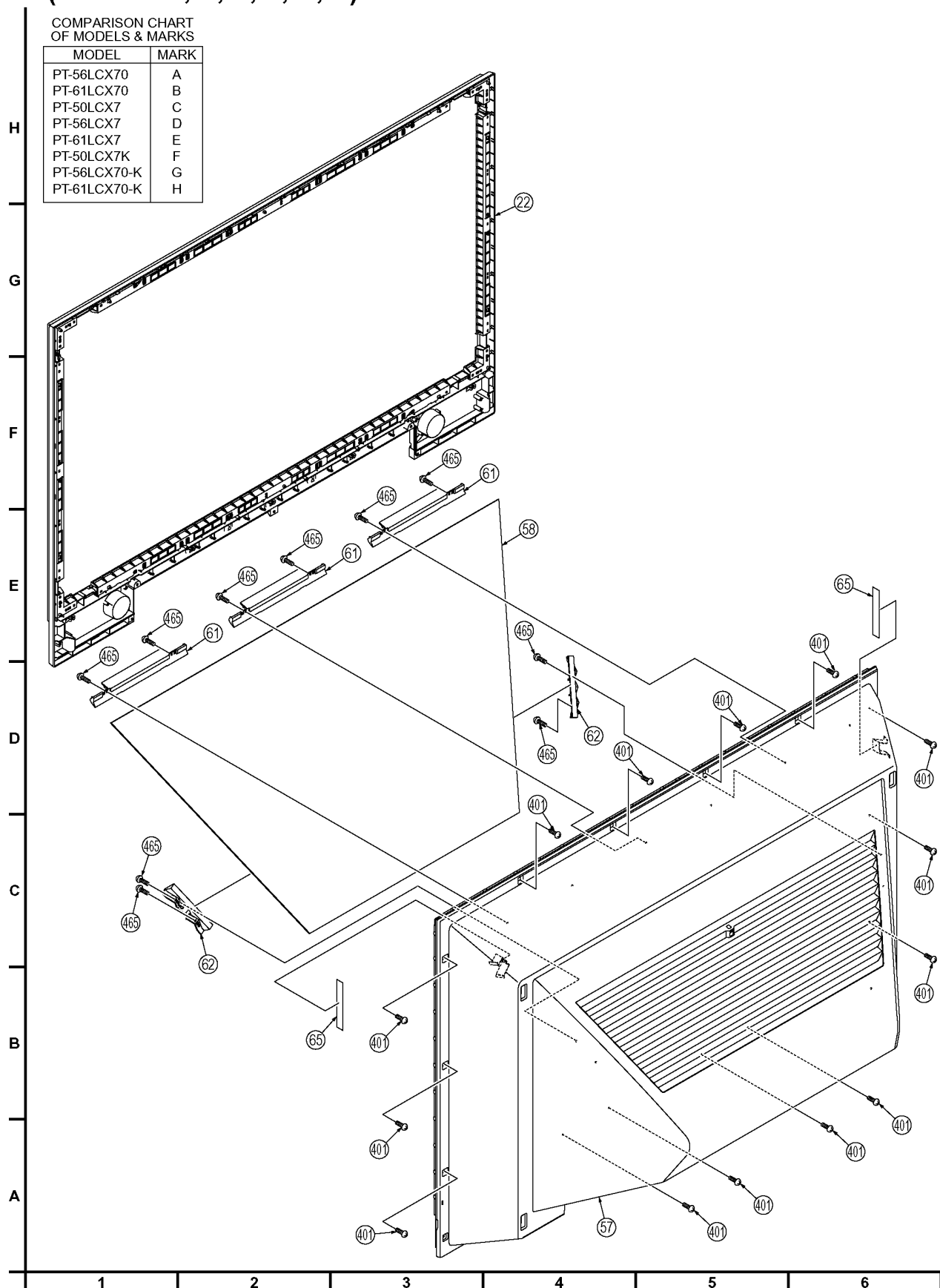
MODEL	MARK
PT-56LCX70	A
PT-61LCX70	B
PT-50LCX7	C
PT-56LCX7	D
PT-61LCX7	E
PT-50LCX7K	F
PT-56LCX70-K	G
PT-61LCX70-K	H



3 56/61 INCH DISPLAY SECTION (Models: A, B, D, E, G, H)

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PT-56LCX70	A
PT-61LCX70	B
PT-50LCX7	C
PT-56LCX7	D
PT-61LCX7	E
PT-50LCX7K	F
PT-56LCX70-K	G
PT-61LCX70-K	H

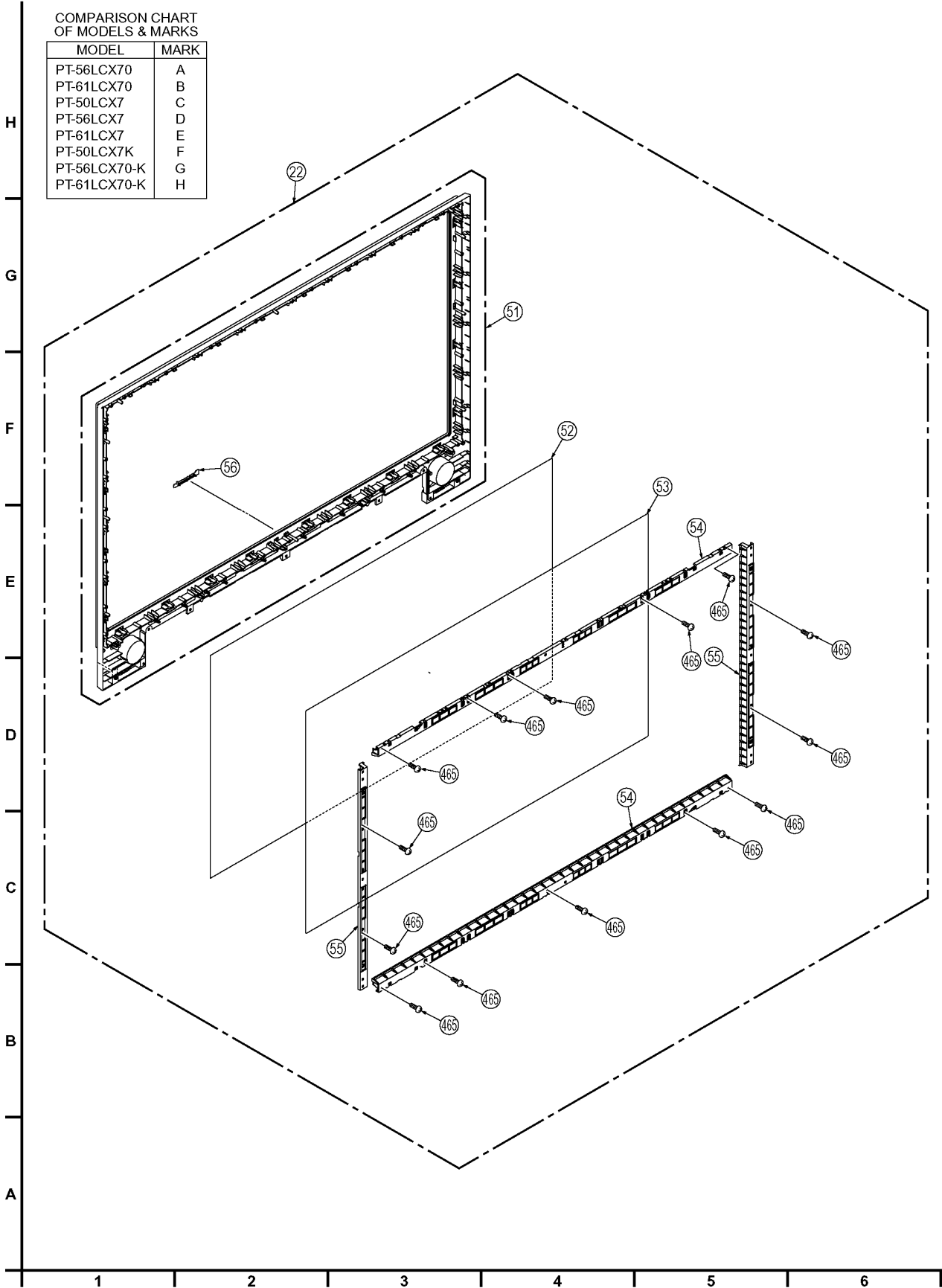


14.4. SCREEN SECTION

④ 50 INCH SCREEN SECTION (Models: C, F)

COMPARISON CHART
OF MODELS & MARKS

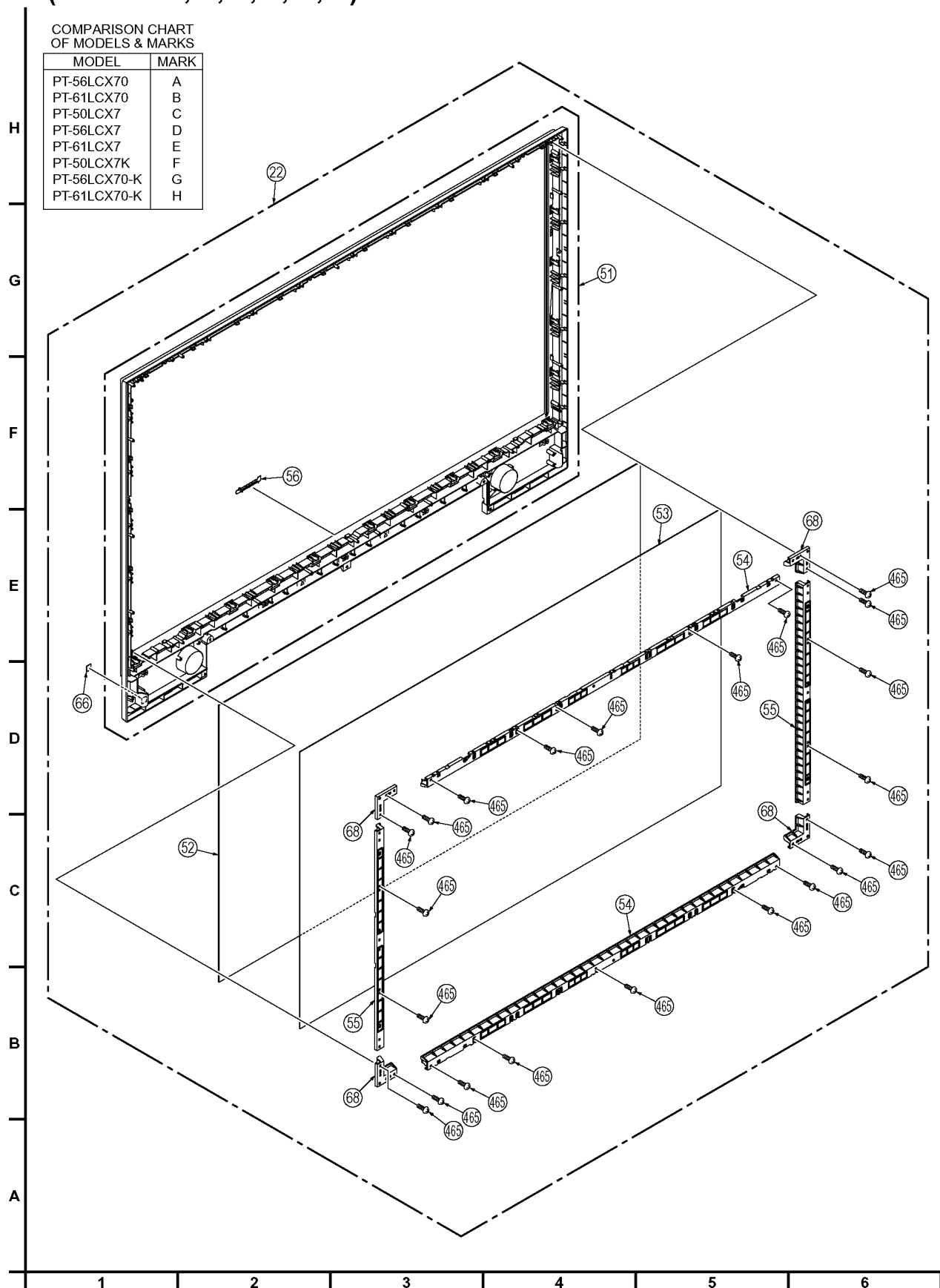
MODEL	MARK
PT-56LCX70	A
PT-61LCX70	B
PT-50LCX7	C
PT-56LCX7	D
PT-61LCX7	E
PT-50LCX7K	F
PT-56LCX70-K	G
PT-61LCX70-K	H



4 56/61 INCH SCREEN SECTION **(Models: A, B, D, E, G, H)**

COMPARISON CHART
 OF MODELS & MARKS


MODEL	MARK
PT-56LCX70	A
PT-61LCX70	B
PT-50LCX7	C
PT-56LCX7	D
PT-61LCX7	E
PT-50LCX7K	F
PT-56LCX70-K	G
PT-61LCX70-K	H

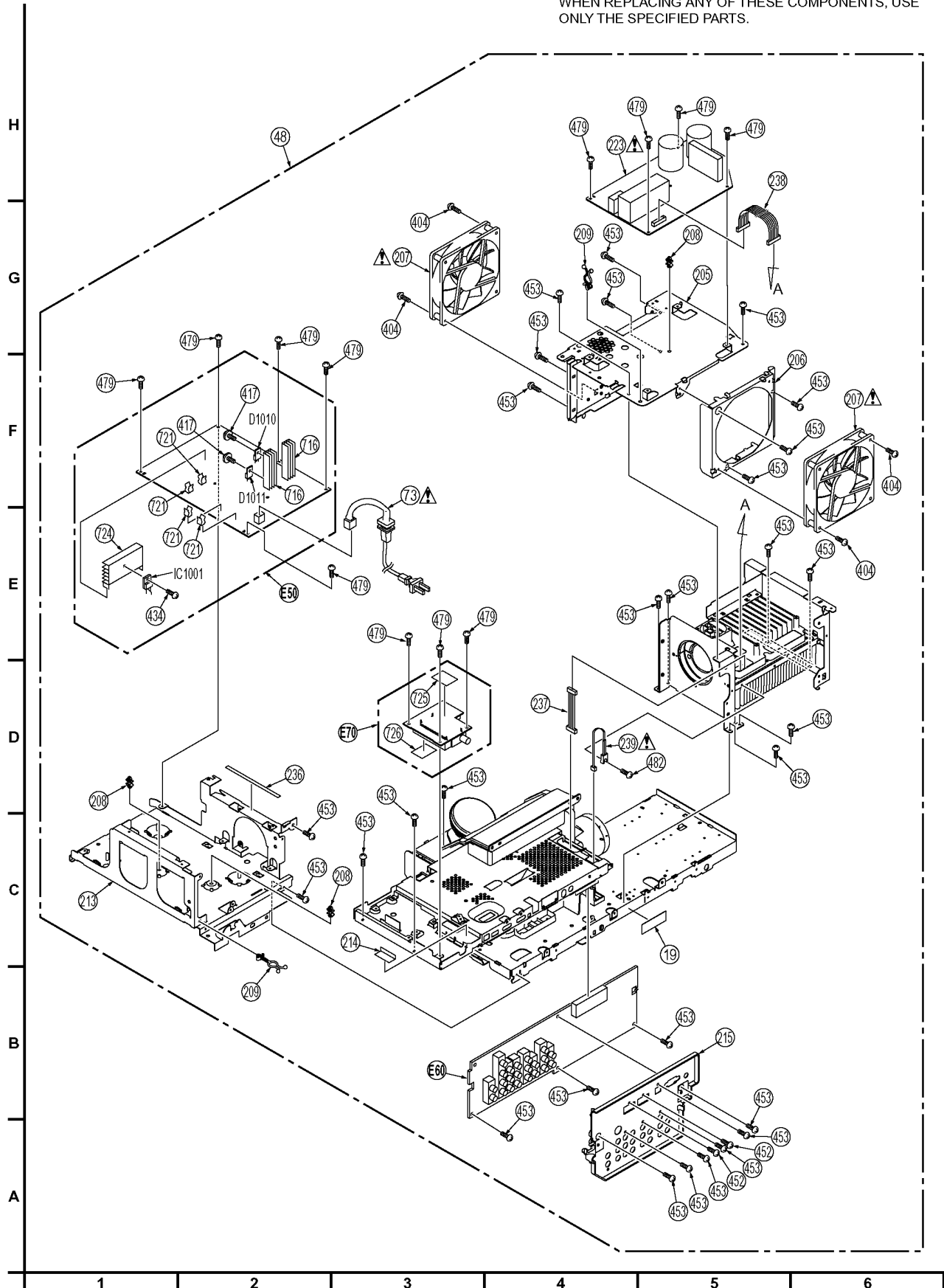


14.5. OPT/TV UNIT SECTION

5 OPT/TV UNIT SECTION

IMPORTANT SAFETY NOTICE


COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

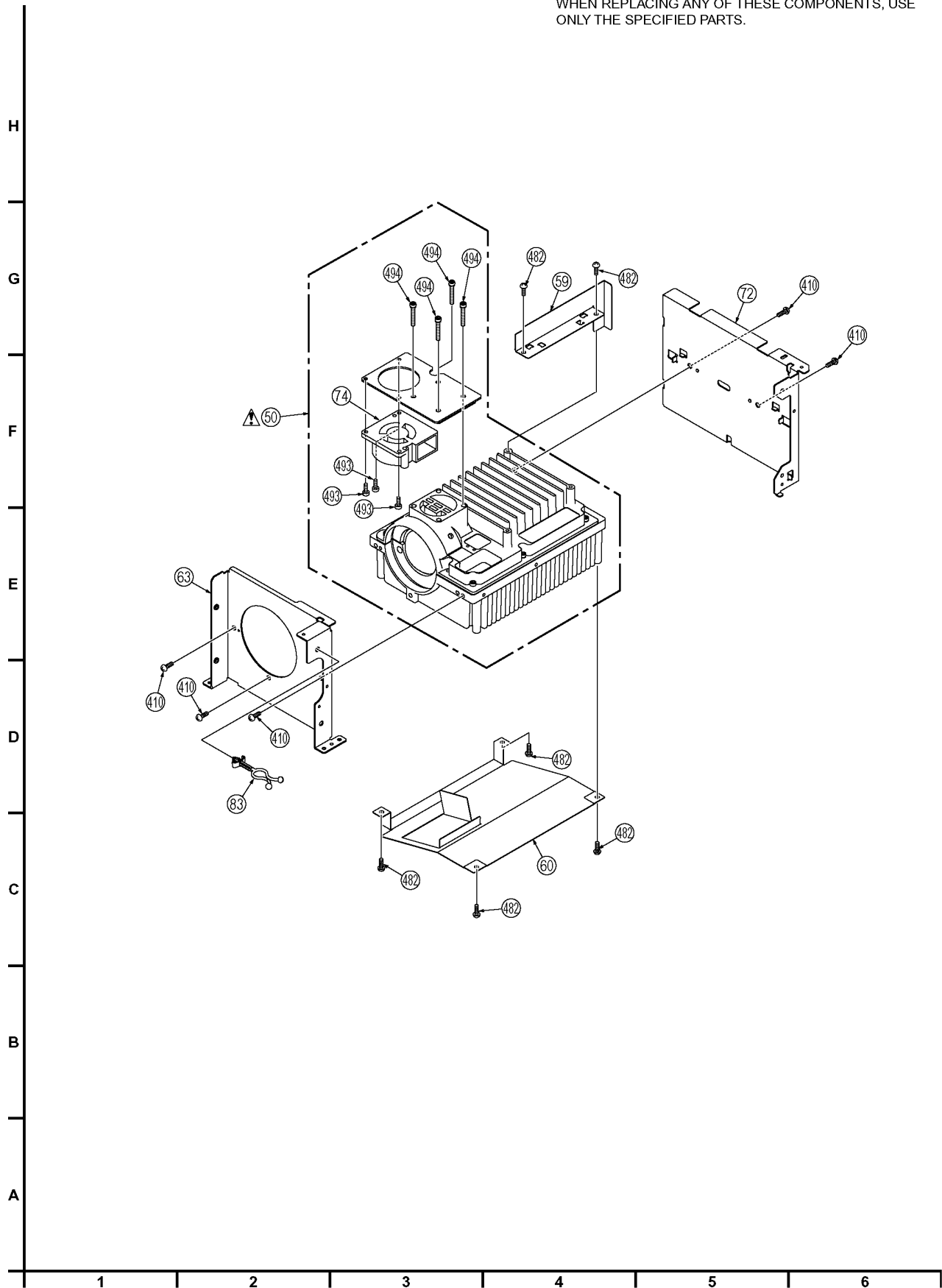


14.6. LAMP UNIT SECTION

⑥ LAMP UNIT SECTION

IMPORTANT SAFETY NOTICE

COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

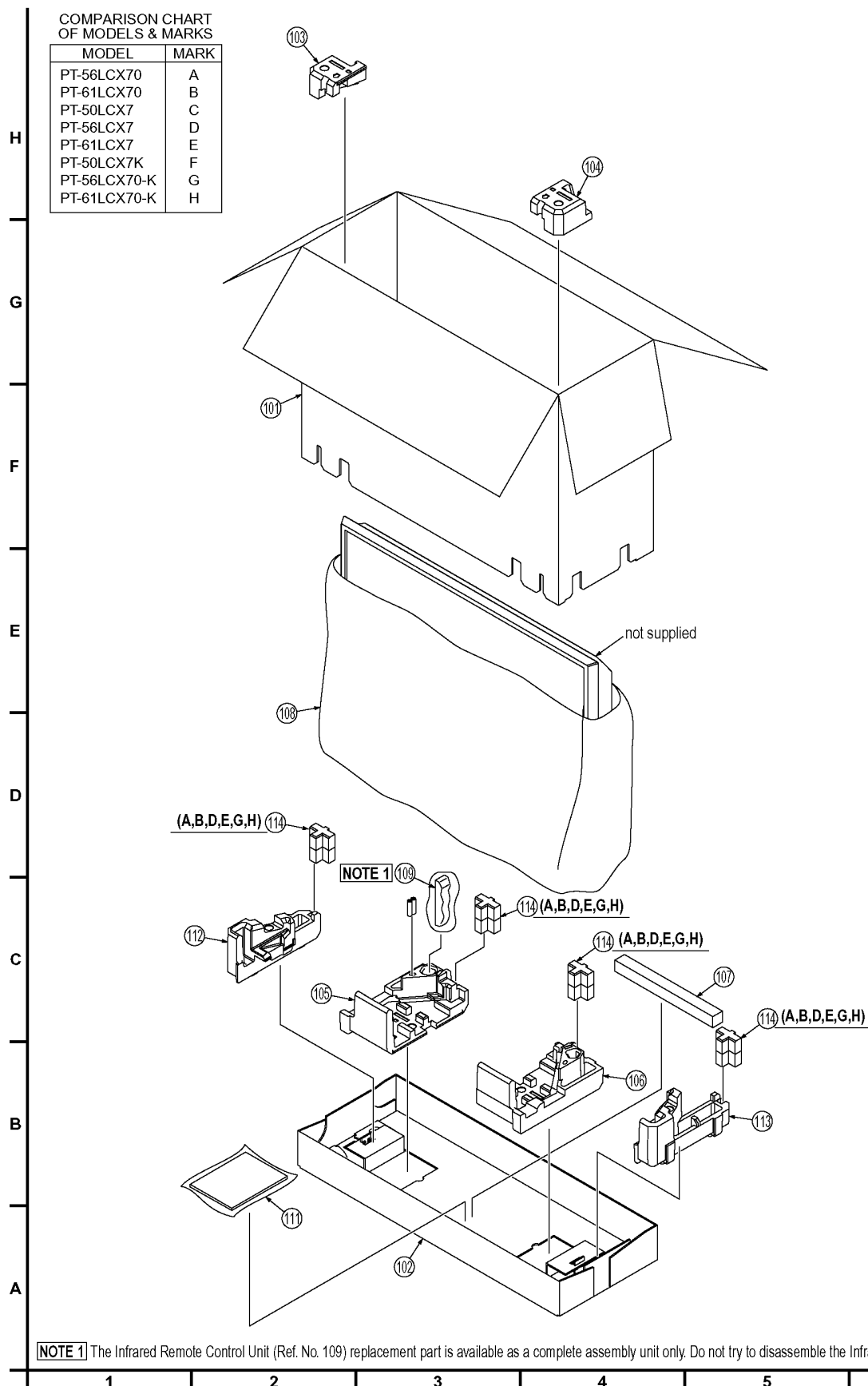


14.7. PACKING PARTS AND ACCESSORIES SECTION

7 PACKING PARTS AND ACCESSORIES SECTION

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PT-56LCX70	A
PT-61LCX70	B
PT-50LCX7	C
PT-56LCX7	D
PT-61LCX7	E
PT-50LCX7K	F
PT-56LCX70-K	G
PT-61LCX70-K	H



15 Replacement Parts List

BEFORE REPLACING PARTS, READ THE FOLLOWING:

15.1. REPLACEMENT NOTES

15.1.1. General Notes

1. Use only original replacement parts:

To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.

2. **IMPORTANT SAFETY NOTICE**

Components identified by the sign \triangle have special characteristics important for safety. When replacing any of these components, use only the specified parts.

3. **SPECIAL NOTE**

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.

6. Definition of Parts supplier:

- a. Parts with mark "PSEC" in the Remarks column are supplied from PSEC.
- b. Parts without mark in the Remarks column are supplied from PASC-NPC.

7. Item numbers with capital letter E (Example: E10, E20,...) in the Ref. No. column are shown in the exploded views.

8. Parts whose Ref. Nos. are the same are interchangeable as replacement parts. Any of these parts may be ordered and used as a replacement part.

15.1.2. Mechanical Replacement Notes

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.

2. Abbreviation

RTL: Retention Time Limited

This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

3. After replacing the OPT/TV Unit, be sure to perform "ADJUSTMENT of the OPT/TV Unit." Refer to "WHEN INSTALLING THE OPT/TV UNIT INTO THE UNIT AT THE USER'S LOCATION"; in Adjustment Procedures 1.

4. The Infrared Remote Control Unit (Ref. No. 109) replacement part is available as a complete assembly unit only. Do not try to disassemble the Infrared Remote Control Unit.

15.1.3. Electrical Replacement Notes

1. Unless otherwise specified;

All resistors are in Ω , K = 1,000 Ω , M = 1,000 k Ω .

2. Abbreviation

RTL: Retention Time Limited

This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

NR: Non Repairable Board Ass'y

MGF CHIP: Metal Glaze Film Chip

C CHIP: Ceramic Chip

COMPLX CMP: Complex Component

W FLMPRF: Wirewound Flameproof

C.B.A.: Circuit Board Assembly

P.C.B.: Printed Circuit Board

E.S.D.: Electrostatically Sensitive Devices

3. When replacing 0 Ω resistor, a wire can be substituted for it.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-56LCX70	A
PT-61LCX70	B
PT-50LCX7	C
PT-56LCX7	D
PT-61LCX7	E
PT-50LCX7K	F
PT-56LCX70-K	G
PT-61LCX70-K	H

15.2. MECHANICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-56LCX70	A
PT-61LCX70	B
PT-50LCX7	C
PT-56LCX7	D
PT-61LCX7	E
PT-50LCX7K	F
PT-56LCX70-K	G
PT-61LCX70-K	H

Definition of Parts supplier:

1. Parts with mark "PSEC" in the Remarks column are supplied from PSEC.
2. Parts without mark in the Remarks column are supplied from PASC-NPC.

MECHANICAL REPLACEMENT PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	LSKU0053	BASE BODY	2
8	LSGH0082	FRONT JACK SHEET	2
9	LSYF0612	FRONT COVER UNIT (A,D,G)	1
9	LSYF0613	FRONT COVER UNIT (B,E,H)	1
9	LSYF0611	FRONT COVER UNIT (C,F)	1
10	TKK778377-1	CAUTION PANEL (F,G,H)	1
14	LSKW0263	ORNAMENT L (A,D,G)	1
14	LSKW0265	ORNAMENT L (B,E,H)	1
15	LSKW0269	ORNAMENT CENTER (A,B,D,E,G,H)	1
16	LSKW0270	ORNAMENT R (A,D,G)	1
16	LSKW0271	ORNAMENT R (B,E,H)	1
17	LSGV0141	REAR COVER	1
18	LSKG0112	SP PUNCHING SHEET (A,D,G)	1
18	LSKG0113	SP PUNCHING SHEET (B,E,H)	1
19	LSQL2324	FUSE LABEL	5
20	LSGQ0243	REAR FAN DUCT	1
22	LSYK2127	SCREEN UNIT (A,G)	3,4
22	LSYK2128	SCREEN UNIT (B,H)	3,4
22	LSYK2167	SCREEN UNIT (C)	3,4
22	LSYK2168	SCREEN UNIT (D)	3,4
22	LSYK2169	SCREEN UNIT (E)	3,4
22	LSYK2126	SCREEN UNIT (F)	3,4
30	LSYF0618	FRONT DOOR (A,B,D,E,G,H)	1
30	LSKF0688	FRONT DOOR (C,F)	1
31	EAS12D182A	SPEAKER	2
40	JOKG00000011	FILTER FOR EMI / EMC (CORES)	2
41	LSMC0160	PANEL SPRING	1
42	LSGU0735	OPERATION BUTTON	2
43	LSGL1516	POWER LED/IR PIECE (A,B,D,E,G,H)	1
43	LSGL1517	POWER LED/IR PIECE (C,F)	1
45	LSYF0619	POWER BUTTON UNIT (A,B,D,E,G,H)	1
45	LSGU0733	POWER BUTTON (C,F)	1
46	LSMA1010	SUPPORT SHIELD	1
47	LSMB0321	POWER BUTTON SPRING	1
48	LSXA0889-HB	OPT/TV UNIT (A,C,D,F,G)	1,5 PSEC
48	LSXA0870-HB	OPT/TV UNIT (B,E,H)	1,5 PSEC

Ref. No.	Part No.	Part Name & Description	Remarks
50	LFS4000PA1	LAMP UNIT	6 PSEC
51	LSYK2133	ESCUTCHEON SUB UNIT (A,G)	4
51	LSYK2134	ESCUTCHEON SUB UNIT (B,H)	4
51	LSYK2170	ESCUTCHEON SUB UNIT (C)	4
51	LSYK2171	ESCUTCHEON SUB UNIT (D)	4
51	LSYK2172	ESCUTCHEON SUB UNIT (E)	4
51	LSYK2132	ESCUTCHEON SUB UNIT (F)	4
52	LSGP0560	LENTICULAR SCREEN (A,D,G)	4
52	LSGP0562	LENTICULAR SCREEN (B,E,H)	4
52	LSGP0589	LENTICULAR SCREEN (C,F)	4
53	LSGP0559	FRESNEL LENS (A,D,G)	4
53	LSGP0561	FRESNEL LENS (B,E,H)	4
53	LSGP0588	FRESNEL LENS (C,F)	4
54	LSXA0886	SCREEN SUPPORT H UNIT	4
55	LSXA0887	SCREEN SUPPORT H UNIT (A,B,D,E,G,H)	4
55	LSXA0945	SCREEN SUPPORT V UNIT (C,F)	4
56	TBMA220	PANASONIC BADGE	4
57	LSGV0139	BACK COVER (A,D,G)	3
57	LSGV0140	BACK COVER (B,E,H)	3
57	LSGV0137	BACK COVER (C,F)	3
58	LSDL0311	MIRROR (A,D,G)	3
58	LSDL0312	MIRROR (B,E,H)	3
58	LSDL0411	MIRROR (C,F)	3
59	LSMA1011	LAMP BRACKET TOP	6
60	LSMA1017	LAMP BRACKET UNDER	6
61	LSYF0602	MIRROR HOLDER H UNIT (A,B,D,E,G,H)	3
61	LSYF0602	MIRROR HOLDER H UNIT (C,F)	3
62	LSYF0603	MIRROR HOLDER V UNIT	3
63	LSMA0991	RFP STAY PLATE	6
65	LSMF0499	SPACER (A,C,D,F,G)	3
65	LSMF0500	SPACER (B,E,H)	3
66	LSQL2173	LABEL (A,B,D,E,G,H)	4
68	LSMA1005	SCREEN SUPPORT CORNER (A,B,D,E,G,H)	4
72	LSMA1006	LAMP SUPPORT SHIELD	6
73	LSJA0641	AC CORD	5 △
74	LSRF0016	BLOWER	6
83	TMM5439	CLAMPER	6 PSEC
101	LSPG2444	CARTON BOX (A,G)	7
101	LSPG2446	CARTON BOX (B,H)	7
101	LSPG2502	CARTON BOX (C)	7
101	LSPG2503	CARTON BOX (D)	7
101	LSPG2504	CARTON BOX (E)	7
101	LSPG2532	CARTON BOX (F)	7
102	LSPG2445	CARTON BOX BOTTOM (A,D,G)	7
102	LSPG2447	CARTON BOX BOTTOM (B,E,H)	7
102	LSPG2443	CARTON BOX BOTTOM (C,F)	7
103	LSPN0803	CUSHION TOP L	7
104	LSPN0804	CUSHION TOP R	7
105	LSPN0805	CUSHION BOTTOM L	7
106	LSPN0806	CUSHION BOTTOM R	7
107	LSPN0831	CUSHION BOTTOM CENTER	7
108	LSPF0111	BAG, POLYETHYLENE	7
109	N2QAYB000103	REMOTE CONTROL UNITS	7
111	LSQF1204	FAN BAG UNIT (A,B,C,D,E)	7
111	LSQF1246	FAN BAG UNIT (F,G,H)	7
112	LSPN0807	CUSHION SIDE L	7
113	LSPN0808	CUSHION SIDE R	7
114	LSPN0809	CUSHION BACK (A,D,G)	7
114	LSPN0810	CUSHION BACK (B,E,H)	7
205	LSSC0963	LAMP SHIELD CASE FRONT	5
206	LSSC0992-1	FAN SHIELD REAR	5
207	L6FAYYYH0053	DC FAN MOTORS	5 △
208	KGLS-6S	CLAMPER	5
209	LSGQ0176	CLAMPER	5
213	LSMA1009	POWER P.C.B. SHIELD	5
214	LSMZ0426	BARRIER	5
215	LSJH0096	REAR JACK HOLDER	5
223	LSXK0303	RF AMP POWER SUPPLY P.C.B.NR	5 PSEC
236	LSMF0367	SHEET, NYLON-RAYON	5

Ref. No.	Part No.	Part Name & Description	Remarks
237	LSJA0635	RF AMP-MAIN HARNESS	5
238	LSJA0636	RF AMP-RF POWER HARNESS	5
239	LSJA0639	THERMAL FUSE	5 Δ
401	XTV4+16AFJ	TAPPING SCREW,STEEL	1,3
403	XTV3+8FFJK	SCREW	2
404	XTV3+30JFJ	TAPPING SCREW,STEEL	5
410	XYN4+J8FJ	SCREW W/WASHER,STEEL	6 PSEC
417	XYN3+K10FN	SCREW W/WASHER,STEEL	5
421	XTV3+8GFJ	TAPPING SCREW,STEEL	1
434	XYN3+F10FJ	SCREW,STEEL	5
452	XTV3+8FFJ	TAPPING SCREW,STEEL	2,5
453	XTV3+10JFJ	TAPPING SCREW,STEEL	5
454	XTV4+16AFJK	TAPPING SCREW,STEEL	1
465	XTV4+12AFJ	TAPPING SCREW,STEEL (2,3,4 A,B,D,E,G,H)	2,3,4
465	XTV4+12AFJ	TAPPING SCREW,STEEL (C,F)	2,3,4
478	LSHD0099-FJ	SCREW,STEEL	1
479	XYE3+FJ8FJ	SCREW W/WASHER,STEEL	5
482	XYN3+J8FJ	SCREW W/WASHER,STEEL	5,6 PSEC
493	XWA3BFN	SPRING WASHER	6
494	XVE3B20FN	SCREW W/WASHER,STEEL	6
710	LSMP0559-1	SD SHIELD CASE	2
711	LSMP0558	SD SUPPORT ANGLE	2
712	LSMC0161	SD EARTH SPRING	2
713	K1PY30Y00005	HDMI INTERNAL HARNESS	2
714	LSJA0629	SD-MAIN HARNESS	2
716	LSSC0978	HEAT SINK	5
721	EYF52BCY	FUSE HOLDER	5
724	LSSC0766	HEAT SINK	5
725	LSSC0996	ELECTROMAGNETIC ABSORPTION WAVE	5
726	LSSC0997	ELECTROMAGNETIC ABSORPTION WAVE	5
750	VZFS0006	CLAMPER	2
E20	LSEP3231A	FRONT JACK/OPERATION P.C.B.	2 RTL
E30	LSEP3232A	POWER SWITCH/OPERATION P.C.B.	2 RTL
E40	LSXA0885	SD/HDMI P.C.B.	2 RTL
E50	LSEP3237A	POWER P.C.B.	5 RTL
E60	LSEP3230A	REAR JACK P.C.B.	5 RTL
E70	LSEP3233A	TUNER P.C.B.	5 RTL

15.3. ELECTRICAL REPLACEMENT PARTS LIST

Definition of Parts supplier:

1. All parts are supplied from PASE-NPC.

PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Remarks
E20	LSEP3231A	FRONT JACK/OPERATION P.C.B.	RTL
E30	LSEP3232A	POWER SWITCH/OPERATION P.C.B.	RTL
E40	LSXA0885	SD/HDMI P.C.B.	E.S.D. RTL
E50	LSEP3237A	POWER P.C.B.	RTL
E60	LSEP3230A	REAR JACK P.C.B.	RTL
E70	LSEP3233A	TUNER P.C.B.	RTL

15.3.1. FRONT JACK/OPERATION P.C.B.

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R6701	ERJ3EKF1741V	MGF CHIP 1/16W 1.74K	
R6702	ERJ3EKF1621V	MGF CHIP 1/16W 1.62K	
R6703	ERJ3EKF2321V	MGF CHIP 1/16W 2.32K	
R6704	ERJ3EKF3161V	MGF CHIP 1/16W 3.16K	
R6707	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R6708	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R6709	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	

PIN HEADER

Ref. No.	Part No.	Part Name & Description	Remarks
CN6701	K1KA08BA0061	CONNECTOR 8P	

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW6701	EVQ11G05R	SWITCH PUSH	
SW6702	EVQ11G05R	SWITCH PUSH	
SW6703	EVQ11G05R	SWITCH PUSH	
SW6704	EVQ11G05R	SWITCH PUSH	
SW6705	EVQ11G05R	SWITCH PUSH	

JACK

Ref. No.	Part No.	Part Name & Description	Remarks
JK6701	K2HA306A0037	JACKS FOR SMALL SIGNAL (EQUIPMENT SIDE)	

15.3.2. POWER SWITCH/OPERATION P.C.B.

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q6801	2SD0601A0L	TRANSISTOR SI NPN CHIP	
or Q6801	BlABCF000011	TRANSISTOR SI NPN CHIP	
or Q6801	BlABCF000106	TRANSISTOR SI NPN CHIP	
Q6802	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q6802	BlADCF000063	TRANSISTOR SI PNP CHIP	
or Q6802	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q6803	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q6803	BlADCF000063	TRANSISTOR SI PNP CHIP	
or Q6803	BlADCF000075	TRANSISTOR SI PNP CHIP	
Q6804	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q6804	BlABCF000020	TRANSISTOR SI NPN CHIP	
or Q6804	BlABCF000112	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D6802	B3AAA0000975	LIGHT EMITTING DIODE	
or D6802	B3AAA0000538	LIGHT EMITTING DIODE	
D6803	B3AGA0000072	LIGHT EMITTING DIODE GREEN	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R6801	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6802	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6804	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R6805	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6806	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R6807	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6808	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6809	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6810	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6811	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6812	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6815	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6816	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	

CAPACITOR

Ref. No.	Part No.	Part Name & Description	Remarks
C6801	ECEA0JKA470	ELECTROLYTIC 6.3V 47UF	

PIN HEADER

Ref. No.	Part No.	Part Name & Description	Remarks
CN6801	K1KA08BA0061	CONNECTOR 8P	

SWITCH

Ref. No.	Part No.	Part Name & Description	Remarks
SW6801	EVQ11G05R	SWITCH PUSH	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
RM6801	B3RAD0000143	INFRARED RECEIVER	

15.3.3. SD/HDMI P.C.B.

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC9801	CIAB00002641	IC, LINEAR	
IC9802	LSSK0114	IC, EEPROM	E.S.D.

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q9801	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q9801	BIABCF000020	TRANSISTOR SI NPN CHIP	
or Q9801	BIABCF000112	TRANSISTOR SI NPN CHIP	
Q9802	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q9802	BIABCF000020	TRANSISTOR SI NPN CHIP	
or Q9802	BIABCF000112	TRANSISTOR SI NPN CHIP	
Q9804	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q9804	BIABCF000020	TRANSISTOR SI NPN CHIP	
or Q9804	BIABCF000112	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D9801	EZAEG2A50AX	OTHER FILTERS	
D9802	EZAEG2A50AX	OTHER FILTERS	
D9803	EZAEG2A50AX	OTHER FILTERS	
D9804	EZAEG2A50AX	OTHER FILTERS	
D9805	EZAEG2A50AX	OTHER FILTERS	

Ref. No.	Part No.	Part Name & Description	Remarks
D9806	EZAEG2A50AX	OTHER FILTERS	
D9807	EZAEG2A50AX	OTHER FILTERS	
D9808	EZAEG2A50AX	OTHER FILTERS	
D9809	EZAEG2A50AX	OTHER FILTERS	
D9810	EZAEG2A50AX	OTHER FILTERS	
D9811	EZAEG2A50AX	OTHER FILTERS	
D9812	MAZ80560ML	DIODE ZENER CHIP 5.6V	
D9813	MA22F2000L	SMALL CAPACITY RECTIFIER DIODES SILICON	
D9814	MA22F2000L	SMALL CAPACITY RECTIFIER DIODES SILICON	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R9801	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9802	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9803	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9804	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R9805	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R9806	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R9807	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9808	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9811	ERJ3EKF4701V	MGF CHIP 1/16W 4.7K	
R9812	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9813	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9814	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R9815	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9816	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R9818	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9821	ERJ3GEYJ390V	MGF CHIP 1/16W 39	
R9822	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R9823	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R9824	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	
R9825	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	
R9826	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	
R9827	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	
R9828	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	
R9829	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	
R9830	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	
R9831	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	
R9832	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R9840	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R9841	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R9850	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9851	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9852	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9853	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9854	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9855	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R9856	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9857	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9858	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9859	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9860	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R9861	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9862	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R9863	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R9864	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R9865	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R9866	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R9867	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R9876	ECJ1VCLH470J	C CHIP 50V 47PF	
R9878	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9879	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9880	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9881	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9882	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R9888	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9889	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9896	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9897	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9898	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C9801	F1H1E104A030	C CHIP 25V 0.1UF	
C9802	F1H1E104A030	C CHIP 25V 0.1UF	
C9805	F2G0J2200006	ELECTROLYTIC CHIP 6.3V 22UF	
C9806	F1H1E104A030	C CHIP 25V 0.1UF	
C9807	F1H1C104A065	C CHIP 16V 0.1UF	
C9808	F1H1C104A065	C CHIP 16V 0.1UF	
C9809	F1H1C104A065	C CHIP 16V 0.1UF	
C9810	F1H1C104A065	C CHIP 16V 0.1UF	
C9811	F1H1C104A065	C CHIP 16V 0.1UF	
C9812	F1H1C104A065	C CHIP 16V 0.1UF	
C9813	F1J1A106A024	C CHIP 10V 10UF	
C9814	F1H1C104A065	C CHIP 16V 0.1UF	
C9815	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C9816	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C9817	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C9818	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C9819	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C9820	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C9830	EEE0JA470SR	ELECTROLYTIC 6.3V 47UF	
C9831	F1H1C104A008	C CHIP 16V 0.1UF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L9801	J0JHC0000045	EMI FILTER CHIP	
L9804	J0JHC0000045	EMI FILTER CHIP	
L9805	J0JHC0000045	EMI FILTER CHIP	
L9806	J0JHC0000031	EMI FILTER CHIP	
L9807	J0JHC0000031	EMI FILTER CHIP	
L9809	J0JHC0000031	EMI FILTER CHIP	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
CN9801	K1NA09E00078	SD UNIT	
CN9802	K1KA12AA0105	CONNECTOR 12P	
CN9803	K1FA119E0002	HDMI JACK SOCKET	
CN9804	K1KA30AA0009	CONNECTOR 30P	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
403	XTV3+8FFJK	SCREW	
452	XTV3+8FFJ	TAPPING SCREW,STEEL	
710	LSMP0559-1	SD SHIELD CASE	
711	LSMP0558	SD SUPPORT ANGLE	
712	LSMC0161	SD EARTH SPRING	
713	K1PY30Y00005	HDMI INTERNAL HARNESS	
714	LSJA0629	SD-MAIN HARNESS	

15.3.4. POWER P.C.B.

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC1001	C0DACYY00003	IC, LINEAR	△
IC1002	CNC1S101R1KT	IC, LINEAR	△
IC1003	C0DAEZZ00003	IC, LINEAR	

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q801	2SD1819AHL	TRANSISTOR SI NPN CHIP	
Q803	2SD1819AHL	TRANSISTOR SI NPN CHIP	
Q804	2SD1819AHL	TRANSISTOR SI NPN CHIP	
Q805	2SD1819AHL	TRANSISTOR SI NPN CHIP	
Q806	2SD1819AHL	TRANSISTOR SI NPN CHIP	
Q1001	B1AAGD000016	TRANSISTOR SI NPN	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D801	ERZV10V361CS	SURGE ABSORBER 360V	△
D802	B0EDKT000009	DIODE SI CHIP	
D807	B0HAJL000001	DIODE SI	

Ref. No.	Part No.	Part Name & Description	Remarks
D808	B0HAJL000001	DIODE SI	
D809	B0EAKP000012	DIODE SI	
D811	MA3X152E0L	DIODE SI CHIP	
D814	MAZ42700MF	DIODE ZENER 27V	
D852	B0EAKP000012	DIODE SI	
D1001	B0EBNT000008	DIODE SI	△
D1002	MAZ71200BC	DIODE ZENER 12V	
D1003	B0HAJL000001	DIODE SI	
D1004	MAZ73000BC	DIODE ZENER 300V	
D1006	B0EAKV000052	DIODE SI	
D1007	B0HAJL000001	DIODE SI	
D1008	B0JCM0000041	DIODE SI CHIP	
D1009	MAZ40910HF	DIODE ZENER 9.4V	
D1010	B0JBSK000017	DIODE SI	
D1011	B0JBSK000017	DIODE SI	
D1012	B0HAJL000001	DIODE SI	
D1015	MAZ41600MF	DIODE ZENER 16V	
D1016	MAZ41300MF	DIODE ZENER 13V	
D1017	MAZ43000MF	DIODE ZENER 30V	
D1018	B0JCMK000003	DIODE SI CHIP	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R801	D0AF825KA002	SOLID 1/2W 8.2M	△
R806	ERDS1TJ100T	CARBON 1/2W 10	
R807	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R808	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R811	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R812	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R813	ERA3YED222V	MGF CHIP1/16W 2.2K	
R818	ERJ6ENF1502V	MGF CHIP 1/10W 15K	
R820	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R821	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R822	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R823	ERJ6ENF1502V	MGF CHIP 1/10W 15K	
R826	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R827	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R1001	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R1005	ERJ6ENF3901V	MGF CHIP 1/10W 39K	
R1006	ERX2SZJR12P	METAL FILM CHIP 2W 0.12	
R1007	ERJ6ENF3901V	CARBON CHIP METAL GLAZE	
R1008	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R1009	ERDS1TJ330T	CARBON 1/2W 33	
R1010	ERJ6ENF1802V	MGF CHIP 1/10W 18K	
R1011	ERD25FJ100P	CARBON 1/4W 10	△
R1012	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R1013	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R1014	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R1016	ERDS2TJ392	CARBON 1/4W 3.9K	
R1017	ERA3YED561V	MGF CHIP 1/16W 560	
R1018	ERA3YED752V	MGF CHIP 1/16W 7.5K	
R1019	ERA3YED302V	MGF CHIP 1/16W 3K	
R1021	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R1022	ERDS1TJ151T	CARBON 1/2W 150	
R1023	ERDS2TJ153	CARBON 1/4W 15K	
R1024	ERDS2TJ562T	CARBON 1/4W 5.6K	
R1025	ERJ6ENF3300V	MGF CHIP 1/10W 330	
R1026	ERF7ZKR82	W FLMPRF 7W 0.82	△
R1027	ERDS2TJ562T	CARBON 1/4W 5.6K	
R1032	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C801	F1BAF102A087	CERAMIC 250V 1000UF	△
C802	F0CAF105A021	POLYESTER 3.5V 1UF	△
C804	ECA1CHG102B	ELECTROLYTIC 16V 1000UF	
C805	ECA1EHG102B	ELECTROLYTIC 25V 1000UF	
C806	F0CAF105A021	POLYESTER 3.5V 1UF	△
C807	F1BAF102A087	CERAMIC 250V 1000UF	△
C815	ECA1CM100B	ELECTROLYTIC 16V 10UF	
C851	F0CAF474A021	POLYESTER 3.5V 0.47UF	△
C1001	F0CAF104A021	POLYESTER 125V 0.1UF	△

Ref. No.	Part No.	Part Name & Description	Remarks
C1002	ECEC2DP561BB	ELECTROLYTIC 200V 560UF	△
C1003	F1BAF102A087	CERAMIC 250V 1000UF	△
C1004	ECJ1VB1H104K	C CHIP 50V 0.1UF	
C1005	ECJ1VC1H101J	C CHIP 50V 100PF	
C1008	ECJ2VB1H222K	C CHIP 50V 0.0022UF	
C1009	F1B3D222A010	CERAMIC 25V 2200PF	
C1010	F2A1V1010029	ELECTROLYTIC 35V 100UF	
C1011	ECJ2VB1H102K	C CHIP 50V 1000PF	
C1015	F2A1V331A800	ELECTROLYTIC 35V 330UF	
C1016	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C1017	F1H1A105A025	C CHIP 10V 1UF	
C1018	F2A1C3920011	ELECTROLYTIC 16V 3900UF	
C1019	F2A1C3920011	ELECTROLYTIC 16V 3900UF	
C1022	ECEA1HKAR47	ELECTROLYTIC 50V 0.47UF	
C1023	ECJ1VB1H104K	C CHIP 50V 0.1UF	
C1025	F2A1V331A800	ELECTROLYTIC 35V 330UF	
C1026	ECJ1VB1H104K	C CHIP 50V 0.1UF	
C1027	ECJ1VB1H104K	C CHIP 50V 0.1UF	
C1028	ECJ1VB1H104K	C CHIP 50V 0.1UF	
C1029	ECJ1VB1H104K	C CHIP 50V 0.1UF	
C1030	ECJ1VB1H104K	C CHIP 50V 0.1UF	
C1031	ECJ1VB1H104K	C CHIP 50V 0.1UF	
C1035	F2A1E3310040	ELECTROLYTIC 25V 330UF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L802	G0B452L00001	COMMON-MODE LINE CHOKE COILS	△
L1001	G0B123K00004	LINE FILTER	△
L1003	J0JKA0000015	FERRITE BEAD WITH LEAD	
L1004	J0JHB0000021	EMI FILTER CHIP	
L1007	J0JHC0000031	EMI FILTER CHIP	
L1009	J0JHC0000031	EMI FILTER CHIP	
L1010	J0JHC0000031	EMI FILTER CHIP	
L1011	J0JHC0000031	EMI FILTER CHIP	
L1012	J0JHC0000031	EMI FILTER CHIP	
L1013	J0JHC0000031	EMI FILTER CHIP	
L1014	J0JHC0000031	EMI FILTER CHIP	
L1015	J0JHC0000031	EMI FILTER CHIP	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
CN804	K1KA02A00736	CONNECTOR 2P	
CN851	LSJA0644	POWER-RF POWER HARNESS	
CN1003	LSJA0645	POWER-MAIN HARNESS	

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
F801	K5D802AQ0004	FUSES, CAP TERMINAL TYPE	△
F1001	K5D632AQ0002	TRANSFORMER 125V 6.3A	△
PR1001	D4FA7R00A002	IC PROTECTOR 7A	△

RELAY

Ref. No.	Part No.	Part Name & Description	Remarks
RL801	K6B1CGA00055	MAGNET RELAYS (FOR PCB)	△
RL802	K6B1CGA00055	MAGNET RELAYS (FOR PCB)	△

TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T801	G4C2AAD00008	POWER SUPPLY TRANSFORMERS	△
T1001	G4D3A0000195	TRANSFORMER SWITCHING	△

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
417	XYN3+K10FN	SCREW W/WASHER,STEEL	
434	XYN3+F10FJ	SCREW,STEEL	
716	LSSC0978	HEAT SINK	
721	EYF52BCY	FUSE HOLDER	
724	LSSC0766	HEAT SINK	

15.3.5. REAR JACK P.C.B.

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC2751	C0DBEKG00003	IC, LINEAR	
IC2753	C0DBEKG00003	IC, LINEAR	
IC2754	C0DBEKG00003	IC, LINEAR	
IC2756	C0BBBA000022	IC, LINEAR	
IC4101	AN15862A-VT	ICS FOR VIDEO / AUDIO	

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q2751	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q2751	B1ABCF000020	TRANSISTOR SI NPN CHIP	
or Q2751	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q2752	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q2752	B1ABCF000020	TRANSISTOR SI NPN CHIP	
or Q2752	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q2753	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q2753	B1ABCF000020	TRANSISTOR SI NPN CHIP	
or Q2753	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q2754	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q2754	B1ABCF000020	TRANSISTOR SI NPN CHIP	
or Q2754	B1ABCF000112	TRANSISTOR SI NPN CHIP	
Q2755	2SD0601A0L	TRANSISTOR SI NPN CHIP	
or Q2755	B1ABCF000011	TRANSISTOR SI NPN CHIP	
or Q2755	B1ABCF000106	TRANSISTOR SI NPN CHIP	
Q4101	2SB0709A0L	TRANSISTOR SI PNP CHIP	
Q4102	2SD0601A0L	TRANSISTOR SI NPN CHIP	
or Q4102	B1ABCF000011	TRANSISTOR SI NPN CHIP	
or Q4102	B1ABCF000106	TRANSISTOR SI NPN CHIP	
Q4103	2SD0601A0L	TRANSISTOR SI NPN CHIP	
or Q4103	B1ABCF000011	TRANSISTOR SI NPN CHIP	
or Q4103	B1ABCF000106	TRANSISTOR SI NPN CHIP	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R2753	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R2754	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2755	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R2756	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2757	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R2758	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R2759	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R2760	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R2761	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2762	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2763	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2764	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2768	ERA3YKD104V	MGF CHIP 1/16W 100K	
R2769	ERA3YED273V	MGF CHIP 1/16W 27K	
R2770	ERA3YKD124V	MGF CHIP 1/16W 120K	
R2771	ERA3YED273V	MGF CHIP 1/16W 27K	
R2774	ERJ3GEYJ274V	MGF CHIP 1/16W 270K	
R2776	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R2777	ERA3YKD124V	MGF CHIP 1/16W 120K	
R2778	ERA3YED273V	MGF CHIP 1/16W 27K	
R2779	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R2780	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R2781	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R2782	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R2783	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	

Ref. No.	Part No.	Part Name & Description	Remarks
R2784	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R2785	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2786	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2787	ERJ3GEYJ274V	MGF CHIP 1/16W 270K	
R2788	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2789	ERJ3GEYJ154V	MGF CHIP 1/16W 150K	
R2790	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3501	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3502	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3503	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3504	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3505	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3506	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3507	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3508	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3510	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3511	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3512	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3513	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3514	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3515	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3516	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3517	ERJ3EKF75R0V	MGF CHIP 1/16W 75	
R3518	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3519	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3521	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3522	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R4103	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4104	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4106	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4107	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4108	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4109	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4110	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4111	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4112	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4113	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4114	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4115	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4116	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4117	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4120	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4121	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4122	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4123	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4124	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4125	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4126	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4134	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	
R4135	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R4136	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R4137	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4139	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4140	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R4141	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4142	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4143	ERJ3GEYJ274V	MGF CHIP 1/16W 270K	
R4144	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R4145	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4146	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4147	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R4148	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R4149	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	
R4150	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C2753	F1H1E104A030	C CHIP 25V 0.1UF	
C2754	F1H1E104A030	C CHIP 25V 0.1UF	
C2755	F1H1E104A030	C CHIP 25V 0.1UF	
C2756	F1H1E104A030	C CHIP 25V 0.1UF	
C2757	F1H1E104A030	C CHIP 25V 0.1UF	
C2758	F1H1E104A030	C CHIP 25V 0.1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C2759	F1H1E104A030	C CHIP 25V 0.1UF	
C2760	F1H1E104A030	C CHIP 25V 0.1UF	
C2761	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C2765	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C2769	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C2774	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C2775	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C2776	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C3505	F2A1A4710030	ELECTROLYTIC 10V 470UF	
C4101	ECEA1CKA101	ELECTROLYTIC 16V 100UF	
C4103	F1H1A105A025	C CHIP 10V 1UF	
C4104	F1H1A105A025	C CHIP 10V 1UF	
C4105	F1H1E104A030	C CHIP 25V 0.1UF	
C4106	F1H1A105A025	C CHIP 10V 1UF	
C4107	F1H1A105A025	C CHIP 10V 1UF	
C4108	F1H1A105A025	C CHIP 10V 1UF	
C4109	F1H1A105A025	C CHIP 10V 1UF	
C4110	F1H1A105A025	C CHIP 10V 1UF	
C4111	F1H1A105A025	C CHIP 10V 1UF	
C4112	F1H1A105A025	C CHIP 10V 1UF	
C4113	F1H1A105A025	C CHIP 10V 1UF	
C4114	F1H1A105A025	C CHIP 10V 1UF	
C4115	F1H1A105A025	C CHIP 10V 1UF	
C4116	F1H1A105A025	C CHIP 10V 1UF	
C4117	F1H1A105A025	C CHIP 10V 1UF	
C4120	F1H1A105A025	C CHIP 10V 1UF	
C4121	F1H1A105A025	C CHIP 10V 1UF	
C4123	F1H1A105A025	C CHIP 10V 1UF	
C4124	F1H1A105A025	C CHIP 10V 1UF	
C4138	ECEA1CKA220	ELECTROLYTIC 16V 22UF	
C4139	F1H1A105A025	C CHIP 10V 1UF	
C4140	F1H1A105A025	C CHIP 10V 1UF	
C4141	F1J1A106A024	C CHIP 10V 10UF	

COIL

Ref. No.	Part No.	Part Name & Description	Remarks
L4101	J0JHC0000078	EMI FILTER CHIP	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
CN2751	K1KA03AA0193	CONNECTOR 3P	
CN2752	K1KA03AA0193	CONNECTOR 3P	
CN2753	K1KA03AA0226	CONNECTOR 3P	
CN2754	K1KA03AA0225	CONNECTOR 3P	
CN3501	K1KA35BA0138	CONNECTOR 35P	
CN3502	K1KA06BA0061	CONNECTOR 6P	

JACKS

Ref. No.	Part No.	Part Name & Description	Remarks
JK3501	K1U413A00008	S-JACK SOCKET	
JK3502	K2HA306A0037	JACKS FOR SMALL SIGNAL (EQUIPMENT SIDE)	
JK3503	K2HA306A0037	JACKS FOR SMALL SIGNAL (EQUIPMENT SIDE)	
JK3504	K2HA306A0038	JACKS FOR SMALL SIGNAL (EQUIPMENT SIDE)	
JK3505	K2HA204A0051	JACKS FOR SMALL SIGNAL (EQUIPMENT SIDE)	
JK3506	K2HA306A0038	JACKS FOR SMALL SIGNAL (EQUIPMENT SIDE)	
JK3507	K2HA204A0051	JACKS FOR SMALL SIGNAL (EQUIPMENT SIDE)	
JK3509	K2HA204A0051	JACKS FOR SMALL SIGNAL (EQUIPMENT SIDE)	

15.3.6. TUNER P.C.B.

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R8970	ERJ6GEYJ470V	MGF CHIP 1/10W 47	
R8971	ERJ6GEYJ470V	MGF CHIP 1/10W 47	
R8972	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	

Ref. No.	Part No.	Part Name & Description	Remarks
R8973	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8974	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W8972	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W8973	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W8974	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W8975	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W8976	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W8977	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W8978	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W8979	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W8980	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
W8981	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
W8982	ERJ6GEY0R00V	MGF CHIP 1/10W 0	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C8970	F2A0J331B003	ELECTROLYTIC 6.3V 330UF	
C8971	FIH1C104A065	C CHIP 16V 0.1UF	
C8972	FIH1H102A219	C CHIP 50V 1000PF	
C8973	F2A0J331B003	ELECTROLYTIC 6.3V 330UF	
C8974	FIH1C104A065	C CHIP 16V 0.1UF	
C8975	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C8976	F2A1H560B358	ELECTROLYTIC 50V 56UF	
C8977	ECJ1VC1H820J	C CHIP 50V 82PF	
C8978	ECJ1VC1H820J	C CHIP 50V 82PF	
C8979	ECJ1VC1H100C	C CHIP 50V 10PF	
C8980	F2A0J331B003	ELECTROLYTIC 6.3V 330UF	
C8981	FIH1C104A065	C CHIP 16V 0.1UF	
C8982	FIH1H102A219	C CHIP 50V 1000PF	
C8984	ECJ1VC1H101J	C CHIP 50V 100PF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L8970	J0JHC0000045	EMI FILTER CHIP	
L8971	J0JHC0000034	EMI FILTER CHIP	
L8972	J0JHC0000045	EMI FILTER CHIP	
L8973	J0JHC0000045	EMI FILTER CHIP	

PINHEADER

Ref. No.	Part No.	Part Name & Description	Remarks
CN8970	K1KA20A00331	CONNECTOR 20P	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
TU8970	ENGE6601KF	TV TUNERS	
725	LSSC0996	ELECTROMAGNETIC WAVE ABSORPTION	
726	LSSC0997	ELECTROMAGNETIC WAVE ABSORPTION	